Babylonian Astrology and Its Relation to the Old Testament

By

CHARLES VICTOR McLEAN

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Submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, in the Faculty of Philosophy, Columbia University

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PREFACE

The birthday of the modern study of Babylonian astrology was March 7, 1853, when Edward Hincks, the Irish Orientalist, found a list, containing the names of the Babylonian months. In 1876 several tablets came to light, which made the study of Babylonian astrology possible. Since that time, the translations of new tablets of astrological significance have gradually rounded out our knowledge of that precursor of Greek and Roman astrology, which brought fame to the cities of ancient Babylonia. While many points still allow of differences of opinion, yet it is now possible to delineate the important features of that system clearly enough to compare it with the astral conceptions of surrounding nations.

In estimating the relation of this system to the Old Testament, it must ever be remembered that these writers were influenced by Egyptian and Persian ideas as well as by those of Babylon and also that the references to astral matters in the Old Testament are often so meagre as to permit of doubt whether the writer was acquainted with the Babylonian speculations, or was simply a disinterested spectator of celestial events. It is evident, however, that the Babylonian calendar with its nomenclature gradually made its way into the Hebrew nation and it is probable that at least the scholars of Israel did not adopt that calendar without studying the speculations and investigations, which formed its basis.

Furthermore, the study of comparative religion reveals the fact that races in different parts of the world may develop religiously and culturally along similar lines even where there is no possibility of contact or influence. The geographic situation of the Hebrews, however, and their history as related in their sacred books, preserved to us, and in cuneiform literature lead to the suspicion that the progress of Israel was accelerated by contact with Babylonian civilization. At the same time, it appears that the priestly and prophetic historians of Israel did not blindly assimilate the speculations of the people by whom they were surrounded, but rather exercised a prudent eclecticism, admitting to the life and practice of their nation what was useful to its religious development, rejecting what was vicious.

My gratitude is due to my teachers, Professor Richard Gottheil, and Professor Julius Bewer, also to Professor Kraeling and Professor Gray, for valuable counsel on matters concerning which scholars disagree, as also for their kindness in reading my manuscript and offering valuable and highly-appreciated suggestions.

TORONTO, 1929. C. V. M.

CONTENTS

Chapter		Page
I.	Babylonian Astrology in Its Final Form	5
II.	The Development of Babylonian Astrology	22
III.	Babylonian Astrology and Religion, Myth and Legend	29
IV.	Babylonian Astrology and the West Semites	40
V.	Astrology and the Old Testament	45
	Conclusion	66
	Bibliography	68

Babylonian Astrology and its Relation to the Old Testament.

CHAPTER I

Babylonian Astrology In Its Final Form

Astrology is the theory that the heavenly bodies exercise an influence on the phenomena of the world and on the life of men. Various means of interpreting celestial phenomena have been compiled by astrologers of the far-distant past and of the middle ages and these systems have been combined by the ingenuity and the caprice of priests and charlatans. The astrological system best known to the Western world is that which flourished in Greece from the middle of the fourth century before Christ. The astronomer and geographer, Ptolemy (A.D. 139-161), states that the study of the stars is divided into astronomy and astrology; that the latter is subdivided into forecasts concerning nations, regions and cities on the one hand, and concerning individuals on the other. The former, or social astrology, he says, may be divided into the foretelling of war, pestilence and earthquake on the one hand; and the foretelling of the seasons, heat, cold and fruitfulness on the other. This latter, or personal astrology, embraces the prediction of the birth, parents, brothers, etc., of an individual on the one hand; and of his honour, children, friends, etc., on the other.[1]

The most important factors in this attempt to discern the future were the sun, the moon, the five planets then known, the zodiac, meteors, comets and meteorological conditions. The zodiac was divided into twelve sections, called houses, and the sun, the moon and the planets were assigned a certain number of degrees in each house. An eclipse was, therefore, significant, as was also the house of the zodiac in which it occurred.

Jupiter and Venus were good planets; Saturn and Mars were evil; Mercury assumed the nature of the planet to which it stood nearest. The sun, Saturn and Jupiter were associated with the day; the moon, Mars and Venus, with the night; Mercury played a double rôle, being associated with both the day and the night. The sun, Saturn, Jupiter and Mars were of the male sex; the moon and Venus were female; Mercury might be of either sex. The influence exercised by a planet was determined in part by the house of the zodiac in which it stood, and, in part, by its aspect, i.e., whether it was near to or far from other planets (con-

[1]Ptolemy. *Tetrabiblos*, I and II. *Praef.*

junction, semi-sextile, semi-square, sextile, quintile-square, trine-sesquiquadrati, bi-quintile, opposition or parallel acclination). As the fate of the individual was the supreme interest of the future, the astrologers of Greece were led to associate the planets with the organs of the human body. In one Greek system the seat of Mercury was the liver; in other systems Jupiter or Venus held that position. The head was the seat of Saturn; the genital organs, of Venus; the bile, the blood, and the kidneys, of Mars.

In continuance of this scheme of relating terrestrial to celestial objects, colours, metals, stones, plants, drugs and animal life of all kinds were associated with the planets. In the system of Ptolemy, grey was associated with Saturn, white with Jupiter, red with Mars, yellow with Venus. Mercury varied with changing conditions. Gold was associated with the sun, silver with the moon, Jupiter with electrum, Saturn with lead and Venus with copper.[1] By means of these associations the astrologers sought to link the entire realm of the natural sciences with the heavenly bodies and, hence, with astrology.

The houses of the zodiac, each ruled by a planet, were distinguished as related to the day or to the night; each house was designated as male or female and was associated with several political divisions of the world. The houses were united to form geometrical figures such as triangles, rectangles, and hexagons; hence the terms trigon, quadrate, and sextate. The houses, which appeared in opposition one to another, were also noted. Trigon and sextate were for good; the other relations boded ill. Each house was further divided into three "decans" and sometimes into twelve parts, each part containing two and one-half degrees. Over each of these small parts a planet presided and each possessed its peculiar significance. Of this zodiac, all parts were important for the casting of horoscopes, but of special significance were the rising house, the culminating, the setting and the lowest. The meaning of each house changed according as its altitude in the heavens increased, or decreased. Each house was permanently related to some human interest, however; Aries was related to life, Taurus to riches, Gemini to brethren, Cancer to parents, Leo to children, Virgo to health, Libra to marriage, Scorpio to death, Sagittarius to religion, Capricorn to dignities, Aquarius to friends, and Pisces to enemies. Therefore, each house was expected to forecast with special precision and minuteness some phase of a person's life. Furthermore, the zodiac was conceived as the prototype of the human body; the first house was the head; the second, the neck; the third, the shoulders and arms; the fourth, the heart; the fifth, the flanks; the sixth, the bladder; the seventh, the buttocks; the eighth, the pubis; the ninth, the thighs; the tenth, the knees; the eleventh, the legs; and the twelfth, the feet.

In correspondence with these divisions of the heavens, the earth was

[1]On the discovery of quicksilver, it was associated with mercury because of its changeable character.

divided, sometimes into seven zones and sometimes into four triangles. Each of these triangles was under the suzerainty of three zodiacal houses, according to its location. Each triangle was subdivided into two parts, an outer and an inner. The outer part was near the limits of the habitable world, while the inner was near the point of intersection of the diagonals. Sometimes the inner part of the triangle stood under the influence of the opposite triangle. Each part of the heavens, therefore, foretold the future specially for some particular quarter of the inhabited world.[1]

The researches of Bouché-Leclercq, Cumont and Boll have shown quite conclusively that the Greeks inherited their system of astrology from the Babylonians, modifying it only in minor details. Although it was practised in Greece before the reign of Alexander the Great, it is probable that it became popular when that ambitious king, by his series of victories, broke down the barriers formerly existing between East and West. The earliest mention of this art occurs in the "Prometheus Vinctus," of Aeschylus (525-465), and from that time onward, the Greeks manifest a growing interest in and knowledge of the heavenly phenomena as interpreters of the future.[2] Babylonian culture was gradually taking possession of Greek thought. There were, however, three important differences between astrology as practised in Babylonia and in Greece.

I. In Greece astrology was interested in the individual; in Babylon, it was concerned with the state and the royal family whose continuance was essential to the safety and the prosperity of the state. Only in later times did the interest in the individual develop among the astrologers of Babylonia.[3]

II. In Greece, astrology was mathematical; in Babylon, it was empirical. The Babylonians studied the skies and preserved in their temples a record of celestial phenomena and of the earthly events which succeeded them in time. Between the former and the latter of these, they assumed a causal relation and affirmed that events on earth are produced by those in the heavens. Stars were, therefore, the "writing of heaven," which might be read by the hierarchical savants; and earthquakes, according to Pliny, were thought to be caused by the influence of the stars when in certain conjunctions with the sun, or with each other.[4]

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[1]Paully Wissowa. *Real-Encyclopaedie der Klassischen Altertumsgewissenschaft* Article, "Astrology."

Encyclopaedia Britannica. Article, "Astrology."

[2]See line 486. Cicero. *De Divinatione,* II, 42.

Diodorus Siculus, II, 7; 30, 31.

[3]A horoscope of February 28, 142 B.C., provides the following notices: I. In the beginning of the night the moon appeared with Shur Narkabti to the north at a distance of a yard. II. The moon was in the beginning of Gemini. III. The sun was in Pisces. IV. Jupiter was in Libra. V. Venus and Mars were in Aries. VI. Saturn was in Leo. *Zeitschrift für Assyriologie,* IV, 169.

[4]Rawlinson. *Cuneiform Inscriptions of Western Asia,* I, 52, No. 3. Col. 11, 1, 2. II, 38, 27b.

To ascertain the significance of a celestial phenomenon, therefore, it was necessary, especially in later times, as the archives grew more comprehensive, only to consult the records and to discover what had followed a similar celestial event on a former occasion. Now, if the astrologers could foretell the date of an eclipse or of an opposition of the sun and the moon, they realized that their efficiency as prophets of mundane things would be greatly increased. This attempt to foretell events, such as eclipses, soon convinced them that the movements of the heavenly bodies are governed by fixed laws. Nevertheless, mathematics were applied but slowly and with many inaccuracies.

The Greeks, however, having appropriated the archives of the Babylonians, which recorded their successes and their failures in the prediction of hemerologies, made rapid strides in astronomy, thereby enabling themselves to foresee at considerable distance approaching heavenly phenomena and, therefore, to predict impending terrestrial events.

III. In Greece, astrology was laic; in Babylonia, sacerdotal. In connection with the temples of Babylonia, mention is made of several orders of priests who officiated there. Their duties included the recitation of prayers, the presentation of offerings, the making of music, the uttering of oracles and the interpretation of omens. This latter class (Sumerian-azu, Semitic-baru) made use of the livers of sacrificed sheep, cups, arrows, dreams, the movements of birds and the position and appearance of the heavenly bodies as means of learning the nature of coming events. Their patron deity was Shamash.[1] The seer (baru), like the members of the other priestly orders, belonged to a distinct caste and pursued a prescribed course of study in preparation for his office.[2] He who aspired to the office of seer and who was of the everlasting seed of Enmeduranki, the king with the woollen garment of Shamash, should be the offspring of a parent whose forebear was holy, and he himself should likewise be perfect in form and feature. Such a one only might approach the presence of Shamash and Adad, the place of the vision and the oracle. One not thus holy and perfect, defective as to eye, wanting teeth, mutilated of finger, having earth-grey flesh filled with leprosy, could not be a keeper of the decrees of Shamash and Adad; approach the place of Ea, Shamash, Marduk, or Ninedina; nor join the brethren at the decision of the seers. They could not reveal to him the word of the oracle and he could not hold in his hand the cedar, beloved of the great gods. The reading of omens was, therefore, a sacred office, accessible only to those specially blessed as to their ancestors, their bodies and their minds. On the other hand, astrology was practised in Greece by laymen. The term "Chaldean" in Babylonia denoted a tribe, a priest, and a prophet; in Greece and Rome it signified

[1]Meissner. *Babylonien und Assyrien*, II, p. 66. II, p. 55.
[2]*Diodorus Siculus*, II, 29.

a tribe, a mathematician and a charlatan, who sought by various means to forecast the future.[1]

The literary sources from which our knowledge of Babylonian astrology is obtained are:

1. Excerpts from Diodorus Siculus and stories from Ktesias which are suspect.

2. The Canon of Ptolemy in its first division, which covers the period to the reign of Cyrus. It provides an astronomical calendar from the age of Nabonassar (747-734). Lunar eclipses are noted for the years 747 and 738 which have been verified astronomically and found to correspond to the Julian calendar.

3. Fragments from Berossus, a contemporary of Alexander the Great, who wrote an historical work of three books at the request of the Seleucids.

4. Notices of Abydenus, who lived after Berossus.

5. Herodotus.

6. Josephus, who is quite unreliable.

7. Eusebius and Syncellus.

8. Assyrian inscriptions, the largest discovery of which was made in the Library of Assurbanipal.[2]

The Euphratean system of astrology, most clearly elucidated by these sources, is that compiled by the priests of the city of Babylon on the basis of the astrological and cosmological systems, which had preceded it, and designed to accord with the theological tenets of that city.[3] In Babylon the chief deity was Marduk; therefore, an astrological system, which was designed by the hierarchy, must exalt Marduk in all its hypotheses and speculations. In the Babylonian Creation Story, which was recited in Babylon each year at the New Year's feast, the following achievements are attributed to Marduk:

1. He constructed the stations for the great gods, i.e., the planets.[4]

2. He constructed the "lumashi," i.e., the seven constellations, each of which was identified with a deity, and which are Perseus, Cygnus, Orion, Canis Major, Centaurus, Aquila and Sagittarius. The word denotes also the zodiacal signs of the sun or of the moon.[5]

3. He fixed the year and designed the signs of the zodiac. For the twelve months he fixed three stars each.[6] To each month the astrolabes assign three stars, which were at first interpreted as based on the order in which they rose heliacally, being so chosen that they rose at regular

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[1]Strabo. XVI, 1, 6.

[2]Jeremias. *The Old Testament in the Light of the Ancient East*, II, p. 193f.

[3]Jastrow. *Religion of Babylonia and Assyria*, p. 218.

[4]Langdon. *Babylonian Epic of Creation.* Tab. V, 1.

[5]Langdon. *Babylonian Epic of Creation.* V, 2.

[6]Langdon. *Babylonian Epic of Creation.* V, 3-4.

intervals of ten days, the system beginning with a star in Cetus (Dilgan), which rose near the beginning of the month Nisan and governed ten days.[1]

4. He established the place of Nibiru.[2]

5. He appointed the place of Enlil and Ea.[3]

6. He opened gates on both sides.[4]

7. He commissioned the sun to rule the day and the seasons, the moon to rule the night.[5]

8. The stations of heaven and earth were arranged among the gods.[6]

9. The gods of fate, who are seven in number, fixed the fate of all men.[7]

10. He designed the temple in Babylon, using as his model the celestial temple.[8]

It is evident, therefore, that for the priests of the temple in Babylon, Marduk is the creator and regulator of the universe. By his power and his courage, he has brought order out of chaos, peace out of war and light out of darkness. He creates the heavenly bodies and forms the stars into constellations to be regulators of human history, as well as splendid temples in which the deities may dwell, and, from these celestial temples, the ecclesiastical architecture of Babylon is modelled. He summons the six other gods to a council meeting in a chamber, called "Ubshakkinatu," and, there, under his presidency, the future weal and woe of kings and states is determined.

Babylonian astrology, therefore, is based on four assumptions:

1. The stars are temples in which the gods reside. A deity may be approached in his earthly temple, or communication may be received from him in his celestial temple by one who is competent to read the signs.

2. The stars reveal to men the intentions and purposes of the gods with regard to the future. A bilingual text compares the importance of the heavens in astrology to that of the liver in hepatoscopy when it states: "The wide heaven is the expanse of thy liver."[9]

3. The earth is a copy of the skies. The word "Babylon" (bab ili—gate of god) denotes the city as a copy of the heavenly throne. Temples are copies of their heavenly prototypes. There is also a cosmic Euphrates and Tigris.[10]

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[1]Weidner. *Handbuch der Babylonischen Astronomie*, p. 62ff.

[2]Langdon. *Babylonian Epic of Creation*, V, 6. Nibiru—From 'eberu—to cross over—the meridian—North Pole. Meissner. *Babylonien und Assyrien*, II, p. 403.

[3]Langdon. *Babylonian Epic of Creation*, V, 8.

[4]Langdon. *Babylonian Epic of Creation*, V, 9.

[5]Langdon. *Babylonian Epic of Creation*, V, 12-15.

[6]Langdon. *Babylonian Epic of Creation*, VI, 57.

[7]Langdon. *Babylonian Epic of Creation*, VI, 59.

[8]Langdon. *Babylonian Epic of Creation*, VI, 90f.

[5]Smith. *Assyrian Discoveries*, p. 395.

[10]Philo Judaeus. *De Migratione Abraham*, p. 32.

4. Human history is predetermined at a heavenly council over which Marduk presides. The members of this council are virtually Marduk in his various aspects as is shown in a text preserved in the British Museum.

Ninurta—Marduk as god of strength.
Nergal— " " " " battle.
Enlil— " " ruler and governor.
Nabu— " " god of commerce.
Sin— " " illuminator of the night.
Shamash— " " god of justice.
Adad— " " " " rain.[1]

These fate-deciding gods were usually associated with the planets in the following manner.

Shamash with the sun.
Sin " " moon.
Marduk " " Jupiter.
Ninurta " " Saturn.
Nergal " " Mars.
Ishtar " " Venus.
Nabu " " Mercury.[2]

But these associations are subject to fluctuation with the changing position of the heavenly bodies, or, for the sake of gratifying mythological motifs, as is demonstrated by the following:

1. When the star of Marduk rises, it is Nabu. When it stands a double hour high, it is Marduk. When it culminates, it is Nibiru.[3]

2. Saturn is sometimes identified with the sun.[4] Saturn and the sun were similar in that each marked by its movements an important period of time. The sun completed a revolution each day and Saturn passed through the signs of the zodiac in about thirty years, a generation of men.

3. Marduk is associated sometimes with the sun, sometimes with the moon.[5]

4. Ishtar is sometimes associated with the constellation, Virgo.[6]

5. A planet might assume the name of the constellation to which it stood in opposition, or a planet, rising in a certain house of the zodiac,

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[1]*Cuneiform Texts.* 81-11-3.

[2]These identifications are made on the basis of information furnished by a tablet published in Kugler. *Sternkunde und Sterndienst in Babel* (1907-12-14), I, p. 40. This tablet mentions the names of the planets and of the houses of the zodiac and gives a list of the zodiacal houses in which the heliacal rising and setting of the planets occurs. It gives also a list of oppositions.

[3]Rawlinson. III, 54, No. 5.

[4]Thompson. *Reports of the Astrologers,* II, p. 176.

[5]Wundt. *Völkerpsychologie* (1911-20), VI, p. 84.

[6]Jeremias. *The Old Testament in the Light of the Ancient East,* I, p. 119.

might assume the name of the house which was setting when the former was rising.[1]

6. Venus, in a given month, might assume the name of the zodiacal house which rose in that month.[2]

7. Mars is sometimes called Shamash.[3]

8. Mercury may be the star of Marduk, perhaps because Borsippa, where Nabu was worshipped, was a suburb of Babylon; also, because Nabu was closely associated with Marduk, being the secretary of the celestial council. In every case where this interchange occurs, the reference is to the heliacal rising of Mercury in Nisan, the month when Marduk was prominent, being associated with the spring sun.[4]

Of primary importance to the astrologers was the study of the sun, the moon, and the five planets. Astrological texts contain sections devoted to the study of each of these. The most important aspects of the sun were:

1. An eclipse and the planets visible at that time. An eclipse was usually an ill omen, a sign that the dragon had triumphed, at least temporarily, over the sun.[5] An eclipse of the sun, or of the moon, which had already been observed, was spoken of as "Shamash atalu," or "Sin atalu"; a predicted eclipse, as Atalu Shamash, or Atalu Sin.[6] In measuring the extent of an eclipse, the finger was the standard, mention being made of an eclipse of two fingers.[7]

2. Halos, which were a less fruitful source of omens in the case of the sun than of the moon.

3. Mock suns. Mention is made of "nidu" and the explanation given is: "The suns are days." The reference may be to mock suns, which are seen under certain atmospheric conditions, their number indicating how many days of rain may be expected to follow.

The important aspects of the moon, which, because of its relation to the sun (each ruling a half of the nychthemeris), is sometimes joined with the sun in thought so that the two are spoken of as twins, were:

1. The waxing and waning, its first and last appearance. Because of the constant change of position and form of the moon, it was of supreme value to the astrologer and took precedence over the sun, even in texts which are not purely astrological. Normally, the full moon occurred on the fourteenth day of the month; an abnormality was an evil omen, but

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[1]Kugler. *Sternkunde und Sterndienst*, III, p. 193.

[2]*Cuneiform Texts*, XXVI, pl. 40-42. Kugler. *Sternkunde und Sterndienst in Babel*, III, p. 193.

[3]Weidner. *Handbuch der Babylonischen Astronomie*, p. 23.

[4]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 83.

[5]Craig. *Astrological and Astronomical Texts*, pl. 25, ob. 1-17.

[6]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 58.

[7]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 61.

the texts offer a margin of five days (12th to 16th day) during which it may occur.[1] The right horn of the moon was assigned to the king of Babylon; the left, to his enemies.[2] The first appearance, if made on the day calculated, on the first day of the month, was a good omen. A full month of thirty days was also a good omen, while a premature conjunction foretold evil. Therefore, the full moon, occurring on the thirteenth or the sixteenth day of the month, presaged evil; on the fourteenth or fifteenth day, good.

2. The position of the stars in relation to the moon was a fruitful source of omens. A position on its left side was unfavourable.

3. An eclipse and the planets visible at the time were carefully noted. The extent of the eclipse is stated, as also the portion, whether the north, south, east or west quadrant, or quadrants, and the direction in which the shadow disappeared.[3]

4. The simultaneous appearance of the sun and the full moon.[4]

5. Halos were interpreted as signs that the moon was shepherding the stars. Hence, the two words used for the halo, "tarbasu" and "supuru," mean a sheepfold. The stars within this ring were carefully enumerated and it was noted whether the enclosing ring was bright or dark, continuous or broken. If broken, the direction in which the opening (naru) was seen was of importance.[5] It presaged the direction from which the wind would soon begin to blow.

6. A small crown encircling the moon was ominous, also its colours.[6]

7. The moon is the tablet on which Nabu writes the divine decrees and so it furnishes the essence of astrological knowledge. In the Annals of Assurbanipal, the priest is represented as reading, on the disc of the full moon, the decrees which Nabu has written thereon.[7] Because of its importance to the astrologer, it was called "lord of knowledge" (enzu), "god of the thirty (days)," "light-giver" (nannar). From the first to the fifth day, it was called Anu; from the sixth to the tenth, Ea; and from the eleventh to the fifteenth, Enlil.[8]

Ranged next to the sun and the moon in importance as interpreters were the five planets. The ideogram for planet is "lu-bat," which may be read "libbu," and denotes "wandering sheep." The implication is

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[1]Jastrow. *Religion of Babylonia and Assyria*, p. 213.

[2]Thompson. *Reports of the Astrologers*, No. 25.

[3]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 17.

[4]Thompson. *Reports of the Astrologers*, No. 271. Sin u Shamash shutatu—Moon and sun are seen together. Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 54.

[5]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 106. Thompson. *Reports of the Astrologers*, No. 99.

[6]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 124f.

[7]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 114.

[8]Rawlinson, III, 55, No. 3. Because its phases determined the days of rest, it is called "Lord of rest."

that the planets, in contrast with the fixed stars, move about in the heavens. When the course of the planets was but little understood, they appeared to have no definite path through the heavens. Therefore, the seven "mashi" stars north and south of the ecliptic have the determinative, "lu," written before them, which signified that they are shepherds, guarding the planets lest they wander too far north or south.

One of these shepherds is "Sibzianna"—trustworthy shepherd of heaven, i.e., Orion.[1] The term "lu-bat" has also been translated "dead sheep," because the heliacal setting of the planets was associated with death.[2] The more distant planets are called "mutalliki"—those who run. Moreover, Diodorus Siculus states that the Babylonians call the planets interpreters, a conception which is the basis of astrology although the expression has not been found in cuneiform literature.[3] The five planets were proxies of the great sun-godhead and communicated to men, by means of their position, their movement and their brightness, the verdict of the sun regarding the future. Thus, Marduk, the god of the spring sun, reveals himself in Jupiter; Ninurta, the god of the red glowing sun as it appears when on the horizon, or of the weak winter sun, reveals himself in Saturn; Nergal, who is the fiery, destructive, summer-sun personified, reveals himself in Mars; Nabu, who represents the west or the winter-half of the year, reveals himself in Mercury. The relation of the planets to the various gods, however, is subject to change with their changing position in the heavens.[4] Moreover, the astrological significance of each planet was determined by its position with respect to the sun and the moon, its itensity, speed, heliacal rising and setting, the house of the zodiac in which it rose and set, its position in a constellation and its proximity to other planets.[5] Moreover, a significance was attached to the growing brightness of one planet in relation to another. A text reads: "Mars has become great and outshone the fixed stars."[6]

The striking phenomena of each planet were noted and omens based thereon. Venus, when quite bright, is encircled by a corona which the astrologers called a beard and interpreted as a sign of approaching prosperity. Sometimes, Venus is designated "Nindiranna,"—"lady of the bright colour of heaven."[7] Because of its appearance, sometimes as a morning star and sometimes as an evening star, it was associated with both the sun and the moon to form with them a triad. Saturn was

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[1]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 7.

[2]Thompson. *Reports of the Astrologers*, No. 219. Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 7.

[3]Diodorus Siculus. II, 30.

[4]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 8.

[5]The position of planets in the zodiac is called "manzalti."

[6]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 22. *Cuneiform Texts*, 83-1-18, 245 rs. I.

[7]Kugler. *Sternkunde und Sterndienst in Babel*, III, 261.

"lulim," "leader-ram," because, like the ram most suitable to act as bell-wether, its movements were quite regular. It was regarded as leading the planets in their courses. It portended evil if it appeared in the house, Leo.[1] Mars was called "mushtabarru mutanu"—"portending death" and "zalbatanu"—"white star." Other designations are: red, red wine, black star, hostile star, disease-bringing star, fox-star, robber-star.[2] On the other hand, Mercury was "mullubat"—"wandering sheep par excellence," because in its movement it is the most rapid and most irregular of the planets. Because of this contrast of Mercury with Saturn, the two were associated in thought, so that Saturn may receive the epithet, which properly belongs to Mercury. It usually bore omens of good. Jupiter was a good omen when it darkened other planets, but evil if it was itself darkened.[3] When bright in the heavens, his earthly city, Babylon, might expect prosperity. It is sometimes called "aḫuud"—"grasping one."[4]

The storm-clouds, emitting thunder and lightning and succeeded by the rainbow, were also an important study as they revealed the will of Adad, who was specially consulted concerning birth and tempest.[5] The value of the clouds to the astrologers is demonstrated by the fact that the ideogram for Sin, placed alongside of that for Adad, signified "decision" (purussu). This deity may have been worshipped in prehistoric times in one of the cities of Babylonia although no trace of such a cult has been found. At any rate, the priesthood of Babylon, in compiling their pantheistic system of religion and astrology for the exaltation of Marduk, felt compelled to assign to Adad a position of honour.[6] The significance of thunder depended on whether or not it was accompanied by rain. If heard in the month, Ab, it signifies both good and ill.

Lightning on a cloudless day foretells a flood. Adad brings both

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[1]Thompson. *Reports of the Astrologers*, No. 216.

[2]Weidner. *Handbuch der Babylonischen Astronomie*, p. 14.

[3]Thompson. *Reports of the Astrologers*, Nos. 195, 184.

[4]Rawlinson. II, 22 c.

[5]Rawlinson. IV, 28, No. 2.

[6]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 124f. Adad may have been regarded simply as the counterpart of Enlil, the god of storms.

Nergal commonly represents the underworld, being identical with the winter solstice. When Nergal becomes the god of the summer-sun it is because of his change of position with Ninurta who, when in opposition at the time of the summer solstice, is at the place in the universe which properly belongs to Nergal. Another reason for the change is that Nergal, like Ninurta, is a god of war, for which reason the two are sometimes regarded as twins. The assigning of the five regions of the zodiac to Ninurta may be due to the occurrence of meteoric showers when the sun enters the realm of Ninurta (now August but formerly the summer solstice which is the season of meteoric showers). Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 140, p. 114.

curses and blessings to men, a dogma which is the astrological method of stating that rain is necessary to produce a harvest on the one hand, but very destructive to life and property if too abundant. A thunderstorm without a rainbow in the month Tishri is an evil omen. Thunder is the voice of Adad and is compared to a liver, a jackal, a dog, a pig, a fish, a horse, an ass and two kinds of birds whose equivalent is unknown.[1] The rainbow is conceived as a circle of which we are able to see only a half, therefore, it is associated with the zodiac, being designated "tiranna" —"dwelling of heaven."[2] They observed its colouring, especially the red and the green stripes, also its position in the sky. Meteors and comets were likewise studied, but, being of rare occurrence, they are not the source of numerous omens. A meteor foretells the success of Nebuchadrezzar in wasting the land of Elam.[3]

As the significance of the planets was due in large part to their location in the heavens, the astronomers felt the necessity of dividing the heavens into three parts, viz.: the Zodiac, the North Heaven and the South Heaven.[4] They distinguished also four regions which, in the order of their importance, were: South, North, East, and West; likewise, four directions which, in the order of their importance, were: North, South, West and East.[5]

The zodiac of the sun was the region under the hegemony of Enlil and was divided into twelve houses which were designated: Ku–Aries; Mulmullu–Taurus; Tuame–Gemini; Pulukku–Cancer; Aru–Leo; Sheru–Virgo; Zibanitu–Libra; Akrabu–Scorpio; Enzu–Caper; Gu–Amphora; Nune–Pisces. Aries was regarded as the leader ram of the stars which composed the zodiac, because that house rose heliacally at the beginning of the year in the century when the priests of Babylon were compiling their system. As geometrical figures are found on omen tablets and interpreted as omens, it is assumed that these zodiacal houses were joined to form triangles, squares, etc., as a source of omens.[6] An earlier threefold division into the way (harran) of Anu, of Enlil and of Ea also

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[1]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 91.
Virolleaud. *Astrologie Choldeène*, Text XI.

[2]Weidner. *Handbuch der Babylonischen Astronomie*, p. 14.

[3]*Keilinschriftliche Bibliothek*, 710.

[4]They marked out also a zodiac of the moon, i.e., the constellations in which the moon appears for one day during a lunation. If complete, this zodiac would comprise 28 constellations. C.T. 86-3-78, rs. IV, 33-37, mention stars which stand in the path of the moon.

[5]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 226.

[6]Kugler. *Sternkunde und Sterndienst in Babel*, III, p. 21f, III, p. 33.
Lenormant. *Magic und Wahrsagekunst der Chaldäer*, pp. 520-523.

survived for centuries.[1] Each house was assigned to a planet: Cancer to the moon, Leo to the sun, Gemini and Virgo to Mercury, Taurus and Libra to Venus, Aries and Scorpio to Mars, and Aquarius to Saturn. In each case the presiding planet was designated the "Lord of the Mansion."

Of all the fixed stars, those comprising the zodiac were of greatest significance, for the planets always appear in, and the sun always rises in one of them. Nevertheless, the other stars were not devoid of meaning. Accordingly, they divided the North Heaven into thirty-three constellations under the sway of Enlil; the South Heaven into fifteen constellations, ruled by Ea. Moreover, they distinguished twenty-three extra-zodiacal constellations, some north and some south of the equator, which were allotted to Anu.[2] And again, an astrolabe assigns the first star of each month, the star which rose heliacally at the beginning of the month and which ruled the first ten days, to Ea stars; the second, to Anu stars; the third, to Enlil stars.[3]

In the case of all the fixed stars, the most important phenomenon was the heliacal rising, which aided the astrologers and marked time into uniform periods. Two fixed stars are sometimes found to bear the same name and planets sometimes assume the name of the fixed stars, the purpose being to associate the outlying stars, which possessed a mythological significance, with astrology whose special interest was the zodiac.[4]

Having divided the heavens, the astrologers proceeded to divide the habitable world so that signs, perceived in a certain part of the heavens, might be of supreme significance for a special city or nation. The four world-regions thus obtained were Subartu or the North, Amurru or the West, Elam or the East, and Akkad or the South. In this connection, texts have been found which make mention of twelve stars of Amurru, twelve of Akkad and twelve of Elam.[5] Moreover, the Anu section of the ecliptic was assigned to Elam; the Enlil section to Akkad; the Ea section to Amurru.

To round out this dividing process, time was divided to mark the recurrence of propitious and unpropitious days, the first calendar being designed for astrological purposes. The sun and the moon were conceived,

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[1]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 58.

The identity of these and of other fixed stars and constellations, mentioned in cuneiform texts, was established astronomically by Epping in his work, *Astronomisches aus Babylon*, and Jensen in his work, *Kosmologie der Babylonier*. Moreover, a text mentions sixteen instances of a certain star rising heliacally at the time when another sets. Another text mentions sixteen dated heliacal risings with simultaneous culminations of other stars. These also help to identify the stars and constellations. *Cuneiform Texts.* XXXIII, pl. 4f, rs. III. XXXIII, pl. 6ff, rs. IV, 10-32.

[2]Meissner. *Babylonien und Assyrien*, II, p. 407.

[3]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 13, III, p. 178.

[4]Weidner. *Handbuch der Babylonischen Astronomie*, p. 62ff.

[5]*Cuneiform Texts*, XXVI, 41. XXVI, 44, rs. 5ff. XXVI, 44 rs. 1-3.

not primarily as light-givers for the light was before them, but as regulators of time.[1] The sun, making its daily round from east to west and back to its starting point by night, suggested the idea of the day, which began at sunrise; and each day was the peculiar possession of one or more gods.[2] The nycthemeris was further divided into six watches, three of the day and three of the night.[3]

The first watch of the day, or of the night, was called "bararitu"; the second, "ṣablitu"; the third, "shaturri" or "namaritu."[4] Sometimes the division is into twelve beru (written "kasgid") and each beru is divided into thirty "emdu."[5] Furthermore, the progress of the sun through the houses of the zodiac, beginning with its position at the beginning of spring, suggested the division of time into years.[6] In the annual procession of the sun, four points were of special note: the two equinoxes, when storms might be expected, and the winter solstice, just before the cold, wet season. Therefore, the year was divided into four seasons. A text marks the spring season as beginning on the fifteenth of Nisan, the summer solstice as occurring on the fifteenth of Duzu, the autumnal equinox on fifteenth of Tashritu and the winter solstice on the fifteenth of Tebetu.[7]

The length of time occupied by a lunation was the basis of another division of time, the month. As it was convenient to divide a lunation into four quarters, a seven-day week was adopted, each seventh day being one of special significance in the religious life of the people. A syllabary indicates the names of the planetary deities after whom the days of the week were named. They are the moon, the sun, Mercury, Venus, Saturn, Jupiter, and Mars. In later times this order became: the sun, the moon, Jupiter, Mars, Mercury, Venus and Saturn. The obelisk of Shalmaneser II, however, omits Sin and presents the following order: the sun, Jupiter, Saturn, Mars, Mercury, Beltis (evening star) and Venus (morning star).[8] Sometimes, also, the month was divided into six parts because of the association in thought between that unit of time and the day.[9] In astrological texts, it is assumed that every month is of thirty

[1]Jastrow. *Religion of Babylonia and Assyria*, p. 228.

[2]Rawlinson. V, 48, 49 gives a calendar for the year and the gods of the days. Day–Assy. "umu," related to the root meaning "heat." Alii aliter observavere, Babyloniī inter duos solis exortus, Pliny. *Natural History*, II, 79.

[3]*Cuneiform Texts*, XXXIII, pl. 4.

[4]Meissner. *Babylonien und Assyrien*, II, p. 394f.

[5]Meissner. *Babylonien und Assyrien*, II, p. 394f.
Landersdorfer. *Kultur der Babylonier und Assyrer*, p. 177.

[6]Year—"shattu" implies change, vicissitude (of the seasons).

[7]*Cuneiform Texts*, XXXIII, pl. 4.

[8]Rawlinson. II, 48, 48-54 a, b. Schrader. *Cuneiform Inscriptions and the Old Testament* (1902), I, p. 20.

[9]Meissner. *Babylonien und Assyrien*, II, p. 396.

days; in practice, however, the month might be either twenty-nine or thirty days in length, an effort being made to have the calendar month correspond with a lunation although this was seldom possible because a lunation does not cover an even number of days.[1] Each day of the month possessed special astrological significance, the first five days being allotted to Anu, the second pentad to Ea and the third to Enlil.

This produced what was virtually a five-day week. Moreover, the first ten days of each month were allotted to Ea stars, the second decad to Anu stars, and the third to Enlil stars.[2] This was virtually a ten-day week.

As the sun and the moon are both important factors in the life of men, it was felt necessary to establish a relationship between a lunation, which consists of 29 days, 12 hours, 44 minutes and 3 seconds and a synodical revolution of the sun, which requires 365 days, 5 hours, 48 minutes and 46 seconds. Therefore, the normal year was declared to consist of twelve months, each of which was presided over by a god. A text attests: "Twelve are the months of the year. Six sosses (6 x 60) are the days of the measure of the year's beginning."[3]

The ideographical representation of the months reveals the activities or the phenomena with which they were associated in the thought and expectation of the Babylonian populace:

First month—Month of the Sanctuary.
Second " — " " " Herd.
Third " — " " " Brickmaking.
Fourth " — " " " Scattering of Seed.
Fifth " — " " " Fire.
Sixth " — " " " Mission of Ishtar.
Seventh " — " " " Resplendent Mound (Ziqqurat).
Eighth " — " " " Opening of Dams.
Ninth " — " " " Copious Fertility.
Tenth " — " " " the Cave of Rising (of the sun).
Eleventh " — " " " Destructive Rain.
Twelfth " — " " " Cutting of Grain.[4]

Of these months, the first, fifth and ninth was applied to Akkad, as also the first, fifth, ninth and thirteenth day of every month. The second, sixth and tenth month was applied to Elam, as also the second, sixth, tenth, and fourteenth day of each month. The third, seventh, and eleventh month was applied to Amurru, as also the third, seventh, eleventh and fifteenth day of each month. The fourth, eighth and twelfth

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[1]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 191.

[2]Weidner. *Handbuch der Babylonischen Astronomie*, p. 62ff.

[3]Rawlinson. III, 52, 37.

[4]Jastrow. *Religion of Assyria and Babylonia*, p. 464.

month was applied to Subartu, as also the fourth, eighth, twelfth and sixteenth day of each month.[1]

But a solar year exceeds twelve lunations by several days. Therefore, an intercalated month was necessary to the first compilers of the calendar. When the sun was found to be thirty days distant from the spring equinox at the end of the month Adar, a second Adar was intercalated, sometimes also a second Ulul; and there remains the record of a year in which three months were intercalated, a second Nisan, Ulul, and Adar.[2] Therefore, an intercalated month was necessary every two or three years.[3] In like manner, an attempt was made to correlate the movements of the planets by means of a six-hundred-year period, since it marked an accordance between the civil and the tropical year, 365¼ days, and also represented the end of the twentieth revolution of Saturn, the fiftieth of Jupiter, the three-hundredth of Mars, and was almost the equivalent of 7,421 lunations.[4]

These divisions of time and of space having been made, the association of ideas played an important part in the application of celestial signs to states, or to cities. Therefore, the approach of Mars to Scorpio was an omen that a prince would die from the sting of a scorpion. Conclusions, drawn from what now appears as a mere accidental relation of past events to celestial phenomena, constituted a large proportion of their wisdom. A terrestrial event, having once followed a celestial phenomenon, was expected to recur at the same place in the following cycle. Therefore, because eclipses had occurred on certain days of the month, or because a change in the moon's phase seemed to augur good or evil for humanity, and because, on certain days of the month, disasters had recurred on several occasions, some days were declared propitious for certain pursuits, others unpropitious. The omens are specially interested in rain, harvests, war, distress or prosperity and the king's success or failure.

Having procured an omen, it was forwarded to the king, written on a tablet from 1½ in. x ¾ in. to 3¾ in. x 2¼ in. in dimensions and usually bearing the name of the sender. The protasis of the omen was placed in the preterite tense; the apodosis, in the present.[5] A good omen might imply good crops, recovery from disease, a long reign, victory in battle, an uprising in the land, or low prices. The omen tablets sometimes have

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[1]Jastrow. *Religion of Assyria and Babylonia*, p. 219, p. 237.

[2]Rawlinson. III, pl. 56, 6.

[3]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 191.

[4]Lenormant. *Beginnings of History* (1899), p. 257.

With this system of calculation in use, the calendar was seldom in accord with the sun. Hence, the observation: "On the sixth day of Nisan, day and night were equal." If the calendar were precise, the equinox would occur on the first day of Nisan. Rawlinson. III, 51, 1.

[5]Thompson. *Reports of the Astrologers*, II, No. XXXIII.

appended to them a report of conditions prevailing in the vicinity of the temple at which the omen was compiled, so that the king received communications from the important centres of his realm quite frequently, informing him of present political and commercial conditions and advising him of pending events as ascertained by a constant study of the skies.

Sometimes the astrologer merely reported an appearance in the heavens, without attaching to it any prophetic significance. A report reads: "To the king, my lord, thy servant, Nabua. May Assur, Shamash, Enlil and Nabu bless the king—. We held watch on the fourteenth day; moon and sun were seen together."[1] Provision was made for the occasions when no omen was to be obtained; such a condition was an evil omen, being interpreted as a sign that evil was being plotted in the council-chamber of the fate-controlling deities. A lament states: "I called on my lord, but he showed not his countenance; the prophet gave no prophecy in the oracle."[2]

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[1]Jastrow. *Civilization of Babylonia and Assyria*, p. 490.

[2]Jirku. *Altorientalischer Kommentar Zum Alten Testament*, p. 80.

CHAPTER II

The Development of Babylonian Astrology

When the light of history begins to illuminate the valleys of the Euphrates and the Tigris, the land is divided into city-states, each of which is unified by a religious cult, the city growing up around the temple and the rural vicinity acknowledging the overlordship of the city. In Erech stood a temple of Anu and of Ishtar. Anu is king of gods and lord of lands. Ishtar is the womb of nature, probably worshipped in all cities where there was a cult of the sun. In Nippur stood a temple of Enlil and of Ninurta. Enlil was lord of lands and of storm and possessed the tables of fate.[1] Ninurta was a solar deity, who ruled the world from a mountain. Therefore, his temple was called "mountain house" (ekur). In Eridu was a temple of Ea and of Marduk. Ea was the god of the ocean and the lord of wisdom. In Ur and Ḫarran was a temple of Sin, son of Enlil. In Larsa and Sippar were temples of Shasmash. In Lagash, Ningirsu and Nina were worshipped; in Uruk, Ishtar; in Borsippa, Nabu; in Der, Anu; and in Kutha, Nergal.

These gods were regarded as earthborn and resident in their man-made temple.[2] Concerning the beginnings of astral religion and astrology, the records extant furnish the following notices:

1. From the earliest times to the dynasty of Larsa (2335-2069) Enlil is supreme and has near him Anu and Ea. Under this dynasty the gods assume a cosmic significance.[3]

2. Under Lugalzaggisi of Uruk and Gudea of Lagash, Anu becomes first and Gudea describes his temple as being like the crescent of the moon, or like the sun in the midst of the stars.[4] Anu and Enlil both rule fate.

3. Under Ur Nina, Ea is an oracle god and Bau is called "propitious lady." Near Bau is Nina, daughter of Enki, who dispenses fate. Nina's sister is Nisaba, whose star is Venus and who knows the significance of numbers and carries the tablet of the good stars.[5] Here are found the beginnings of astrology.

4. From these early times comes "Namar Enlil," the astrological compilation of Sargon of Akkad, and his son, Naram Sin.

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[1]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 104.

[2]Khorsabad Inscription of Sargon, Ln. 155.

[3]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 133.

[4]King. *Egypt and Western Asia*, p. 206.

[5]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 136.

5. In these earliest cults, the stars are treated in inscriptions as gods.[1]

Of these centuries before the dynasty of Khammurabi, it may be affirmed:

1. There was a lunisolar year beginning in August-September.[2]
2. An additional month was intercalated every two or three years.[3]
3. Each month was assumed to have thirty days.
4. The names and order of the months in the time of Lugalanda, Sargon and Dungi show a striking similarity.
5. Each month began with a new week; the month was strictly lunar, so there were two or three odd days at the end.
6. A Nippur text from cir. 2000 B.C. mentions the zodiac.[4]
7. In the time of the dynasty of Ur, Lagash, Umma and Nippur had each its own calendar, the last being later adopted by the priests of Babylon.[5]

When the city of Babylon became supreme under the first dynasty, the priests of that city undertook to exalt Marduk by transferring to him many of the attributes formerly assigned to the deities of the ancient cult centres.[6] Accordingly, it is declared in the Creation Epic, which was compiled at this time as a part of the movement to exalt Marduk:

1. By declaration of Ea, Marduk's name shall also be Ea and from Ea he inherits the title "wisest among the gods" (abkal ilani).
2. He becomes "king of the gods" and fifty names are conferred on him to signify that he embodies the complete cycle of nature.
3. From Enlil, lord of the zodiac, he receives the title, "lord of fate" (mushim shimati), and "lord of lands" (bel matati).
4. The qualities of Marduk of Eridu are transferred to Marduk of Babylon and the name of the temple, Esagila, is transferred from Eridu to Babylon.[7]
5. He receives the tablets of fate, which had belonged earlier to Nabu, Anu and Enlil.[8]

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[1]Meissner. *Babylonien und Assyrien*, II, p. 130.

[2]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 176.

In the time of Lugalanda and Urukagina (cir. 2000) in Lagash, the seventh month is called "month of the star, barsag"—Sirius rises heliacally. At that time Sirius rose in July-August, so that the year began in Lagash with the winter solstice.

Weidner. *Alter und Bedeutung der Babylonischen Astronomie und Astrallehre*, p. 1f.

[3]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 174f, p. 191.

[4]Jeremias. *Handbuch der Altorientalischen Geisteskultur*, p. 124.

[5]Weidner. *Alter und Bedeutung der Babylonischen Astronomie und Astrallehre*, p. 62.

[6]In a Babylonian ritual text, Marduk is the child of Eridu, but in historic times the two are represented by different ideograms. Gressman. *Altorientalische Texte und Bilder zum Alten Testament* (1927), p. 301.

[7]*Cuneiform Texts*, 82-5-22, 1048.

[8]Jeremias. *The Old Testament in the Light of Ancient East*, I, p. 134ff.

6. He is identified with Jupiter and becomes the symbol of the beneficent power of the spring sun.

7. Associated with Marduk in the ordering of fate, are the deities which formerly were supreme in one of the city states. In the heavenly council are found Shamash, Sin, Ishtar, Nabu, Ninurta, Nergal and Adad.

From the first dynasty onward to the eighth or seventh century, astrology was almost entirely empirical. Observations were made and omens based thereon, but the astrologers were not yet able to predict the celestial phenomena, which recur at regular intervals such as eclipses, conjunctions and oppositions. They had recourse to the intercalated month of twenty-nine and thirty days alternately to keep the month in accord with the moon's phases, yet often without success.[1] They possessed no knowledge of the Saros, eighteen-year eclipse period which came into use later and made no attempt, so far as the discovered texts reveal, to predict eclipses of the sun, or of the moon. The significance of an eclipse depended for them on the nature of the day on which it occurred, the kind of shadow that appeared over the sun or the moon, as the case might be, and the time of its appearance.[2] The oldest eclipses, observed in Babylon and mentioned in the Almagest, are from 721 or 720 B.C. Toward the close of this period, a text gives the information that an expected eclipse has not occurred and requests the king to send to Babel, Nippur, Erech, and Borsippa to find if it was seen there.[3] This text is from Assur and shows how Assyria adopted the astrology of Babylonia. It reveals the fact that, in the Assyrian age, schools of astrologers existed in the great cities of Mesopotamia and they worked together, realizing that phenomena, visible in one city, might be invisible elsewhere. It also reveals the fact that they were not yet able to predict the time of eclipses although they were attempting to do so.

Moreover, the reckoning of the moon's phases shows that the relative positions of the sun and the moon at conjunction and opposition were but little understood.[4] The equality of day and night at the time of the equinoxes was known, but neither deductions nor calculations were based thereon.[5] They knew that Venus appears sometimes as a morning, sometimes as an evening, star, observations having been made at least from the reign of Ammizaduga, the tenth king of the first dynasty, onward.[6]

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[1] *Cuneiform Texts.* XXXIII, pl. 4, from 800-700 B.C., shows that the 15th of Nisan was the spring equinox which normally should occur on the first of Nisan.

[2] Kugler. *Sternkunde und Sterndienst in Babel,* II, p. 70f.
Landersdorfer. *Die Kultur der Babylonier und Assyrer,* p. 164-167.

[3] *Keilinschriftliche Bibliothek,* 772.

[4] Kugler. *Sternkunde und Sterndienst in Babel,* III, p. 134.

[5] Kugler. *Sternkunde und Sterndienst in Babel,* II, p. 18.

[6] Kugler. *Sternkunde und Sterndienst in Babel,* I, p. 26.
Keilinschriftliche Bibliothek, 110.

Pictures of the zodiac were made at least as early as 1117 B.C.[1] On the other hand, the testimony of boundary stones makes it appear that until about 1000 only four or five constellations of the zodiac had been distinguished.[2]

NOTE: In projecting the rise of astronomical knowledge backward, it is claimed:

1. The Babylonians systematically observed Venus from about 2000 B.C. and calculated its synodical revolution at 585 days (584 is correct).

2. In ancient Nippur, they were using the ecliptic for the measurement of celestial distances with the spring point as the zero point.

3. They correctly estimated a revolution of Mercury at 115 days about 1000 B.C. A Kassite text reckons it at 111 days.

4. They knew of the precession of the equinoxes at least from the time of the Kassites.

5. At the time of the dynasty of Ur, they used a thirty-eight leap-year cycle.

During the eighth century, astronomy began to advance as is proved by the notices from that period concerning the spring equinox, the new moon, eclipses, the positions of planets and the heliacal risings of the fixed stars.[3] Its rapid advance, when once the impulse had seized the astrologers, was made possible by the great number of observations preserved in their archives. Accordingly, before 600 they knew of two kinds of star-distances, the one in space, the other in time, i.e., the time lapsing between the heliacal rising of two stars.[4] From 200 onward, eclipses are predicted; the year, day and hour of their appearance is stated; also, it is noted whether the shadow covers one-third, one-half, or two-thirds of the eclipsed body.[5] In the texts of this period, it is noticeable that the prefix "lubat"

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[1]Rawlinson. III, 45.

[2]Jastrow. *Religion of Babylonia and Assyria*, p. 230.

[3]Gressman. *Die Hellenistische Gestirnreligion in Behefte zum Alten Orient* (1925), p. 4.

[4]Kugler. *Sternkunde und Sterndienst in Babel*, III, 73.

[5]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 17.

Note: VI. At the time of the first dynasty of Babylon, they used an eighty-four-year leap-year cycle.

VII. The division of months into full (30 days) and hollow (29 days) was made in Old Babylonia and the calendar was systematic.

VIII. The Old Babylonians calculated with painful accuracy the date of the vernal equinox. Weidner. *Alter und Bedeutung*, 8, 11, 14.

If this view is correct, astronomy developed very slowly between the age of these early beginnings and the eighth century. Until this century, there seems to have been no comprehensive chronological system, events being dated by reference to the reign of a king, or the building of a temple. The reign of Nabonassar (eighth century) appears in the Babylonian Chronicle and the Almagest as the time when an adequate Chronology came into use.

is replaced by "ilu" and in the pure astronomical texts "ilu" is wanting, "lubat" being used in speaking of all the planets. Astrology and astronomy were being divorced one from the other; the former was emphasizing the theological aspect of the heavens; the latter, the mathematical.

The Library of Assurbanipal, which contains tablets from the earliest times to about 626 B.C., shows the knowledge of the heavens to be in the following position:

1. The Babylonians had traced the ecliptic and divided it into four parts, corresponding to the seasons.

2. They had tried with partial success to draw up a list of constellations whose heliacal rising corresponded to the twelve months of the year.

3. They had determined the synodical revolutions of the planets.

4. They knew that eclipses occurred regularly and tried to foretell them.

5. They knew that a lunation is nearly twenty-nine and one-half days.[1]

6. In this library, with a few exceptions, there is no text that can properly be called astronomical.[2]

The year 523 is epoch-making in that the oldest dated tablet yet found belongs to that year. The same tablet is the first to show the relative position of the sun and the moon with the planets; of the planets with each other; and their location in the signs of the zodiac.[3] A text, from about 500 B.C., gives the names of twenty-nine stars, with the date of the heliacal rising of each.[4] In 534 an eight-year leap-year period was introduced, which was replaced later by a twenty-seven-year period.[5]

During the fourth century (400-300), rapid advances were made in the study of the heavens. In 381 came a nineteen-year cycle (saros, from "shur"—to pass over from one eclipse to another) in which the years 0, 3, 6, 11, 14, 17 have a second Adar, and 9, a second Ulul.[6] In this century they knew the siderial year and calculated it by the rising of Sirius, which for that reason became almost as important as the planets.[7] They knew also of the inequality of the sun's progress and, therefore, the difference in length of the seasons. In star-maps, beginning at this time, the first house of the zodiac appears as "ku"—"kumal"—Aries. Astronomy had now advanced far enough to make students of the skies aware of the precession of the equinoxes. The astronomer, Kidinnu, of the school of Sippar, made this discovery about 314 and in so doing

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[1]Cumont. *Astrology and Religion among the Greeks and Romans* (1912), p. 9f.
[2]Jastrow. *Hepatoscopy and Astrology in Babylonia and Assyria*, p. 667.
[3]Cumont. *Astrology and Religion*, 12.
[4]Kugler. *Sternkunde und Sterndienst in Babel*, III, p. 3.
[5]Meissner. *Babylonien und Assyrien*, II, p. 397.
[6]Meissner. *Babylonien und Assyrien*, II, p. 397.
[7]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 8.

enabled astronomy to take a long step forward.[1] An astrological table gives the period of Jupiter as 344 years, of Venus as 6,400, of Mars as 284, of Saturn as 580, of the moon as 684. These figures probably refer to the return of the planets to their original geocentric position. Moreover, two kinds of moon periods were known, a period of eclipses and that of the agreement between the movement of the sun and the moon. The smaller of these was 223 synodical months and the larger 235 synodical months. In these calculations, astrology was dominant, the figures being a kind of astral arithmetic on which to base speculations.[2]

In texts from this period, the determinative "ki" is attached to the names of the houses of the zodiac. Moreover, Jupiter receives the name "te ut"—white star—while Mars is sometimes called Anu, the result of Assyrian influence. The texts from this period indicate a change in the order of the planets as compared with the earlier centuries. The order now is Jupiter, Venus, Mercury, Saturn, Mars, whereas two texts, one from about 700 and the other from about 550 place Saturn before Mercury. The later order took account of the astrological significance of the planets. Marduk and Ishtar were placed side by side, representing as they did the principle of wisdom and of creation. Nabu was the offspring of Marduk and Ishtar, and the source of human wisdom, being the secretary of Marduk. Nergal and Ninurta represented the destructive principle, the latter being the god of war.

From 300 onward, the texts reveal a mathematical reckoning of the months which are sometimes divided as the day into six parts.[3] The variations in the velocity of the moon are known and tablets, from 132 and 103 B.C., reckon its periods accurately. From 192 and 118 B.C. come astral calendars, which contain calculations on the moon before and after conjunction and opposition, the positions of the planets in relation to the fixed stars, the five chief appearances of the planets, the heliacal rising and setting of Sirius, solstices, equinoxes and eclipses of the sun and moon.[4] Two calculations of the year's length are also found:

365 days, 6 hours, 15 minutes, 18 seconds, also:
365 " 6 " 13 " 43 " [5]

In the ephemerides of this period, however, the spring equinox usually appears four or five days late.[6] Astronomy was learning concerning the systematic, orderly movements of the astral bodies and, at the same time, astrology was enlarging its significance. A text from Seleucid times

[1]Gressman. *Die Hellenistische Gestirnreligion*, p. 5. By some scholars, however, it is thought that this discovery had already been made in the fifth century. Meissner. *Babylonien und Assyrien*, II, p. 418.

[2]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 51.

[3]Meissner. *Babylonien und Assyrien*, II, p. 395f.

[4]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 59.

[5]Kugler. *Sternkunde und Sterndienst in Babel*, II, p. 8.

[6]Kugler. *Sternkunde und Sterndienst in Babel*, I, p. 74.

shows the influence of the stars on a new-born child.[1] An art, which had confined its attention in earlier centuries to the fate of empires, cities and princes, was now seeking to forecast the life of the individual by noting the relative positions and the appearances of the heavenly bodies at the time of a person's birth.

Three steps may, therefore, be distinguished in the growth of astronomy: In its beginnings, records are kept of the spring equinox, the new moon, eclipses, the position of the planets and their heliacal rising. In this stage, the study of the heavens is empirical. Later, appears the calculation of the length of the siderial year, of the moon periods, of the synodical and siderial revolution of the planets. And the final and most useful step is the use of these results to foretell the moon's phases, eclipses and the characteristic phenomena of the five planets.

[1]Meissner. *Babylonien und Assyrien*, II, p. 257.

CHAPTER III

Babylonian Astrology and Religion, Myth and Legend

Babylonian astrology was closely associated with religion. At its foundation was a religious view of the world; the heavens existed that the gods might communicate with men, their servants. Therefore, the heavens were worthy of worship. The priests who transformed the older cults, in which the god was regarded as dwelling in his earthly temple, by projecting the deities to the heavens, were virtually creating a new religion. The old names lingered on, but a new content had been poured into them. The gods were now related primarily to the stars so that, in writing, the ideogram for the two was the same. The temple remained, but possessed of a new significance. Whereas it was formerly the seat of the deity to which he came from the mountains in which he sometimes dwelt, now it was a copy of the star which was the usual dwelling of the god. Whereas the events of the future were foretold by means of agencies existing within the temple, now it was necessary to look away from the temple to the skies. The priests retained their former duties but added another, that of studying the heavens that they might interpret the will of the gods to men. In the earliest texts, the storm is the word of Enlil, later, every celestial appearance is the word of some deity and, therefore, worthy of study.[1]

Therefore, the influence of astrology may be clearly seen in the religion of Babylonia. The design and furniture of the temple manifest the influence of astrological conceptions. The outstanding feature of the Babylonian temple was the temple-tower which served the purpose of an observatory, from which the seer might observe the heavens.[2] It was the earthly counterpart of the celestial temple whose stages were marked by the planet cycles. By these terraces the gods ascended to the heaven of Anu, or came down to the earth. Gudea (cir. 2600) speaks of a temple of seven terraces (tubquati) the ascent of which symbolizes that to heaven and Ningirsu foretells a happy fate to the person who mounts to its summit.[3] This house was called "ziqqurat," which ideographically signifies "conspicuous house," and which is sometimes called "house of oracle." The temple tower of Adab is pre-Sargonic and one of the oldest in the land. In its stratum was found a blue stone vase decorated with designs of a four-stage tower. From the time of Ur Bau onward, these towers were of seven-stages. The stage-tower at Nippur was built quite early and was called "Ekur—mountain-house." The tower at

[1]Reisner. *Sumerisch-Babylonische Hymnen*, 1.

[2]Meissner. *Babylonien und Assyrien*, I, p. 310; II, p. 401.

[3]Cylinder G., Col. I.

Lagash was called "house of the seven directions of the world"; at Uruk, "house of the seven zones"; at Borsippa, "house of the seven directions of heaven and earth," a reference to the seven heavenly bodies most important to the astrologer. This tower was 140 feet in height and 272 feet square. This tower, excavated by Sir Henry Rawlinson in 1845, was found to have been erected on a platform of crude brick by Nebuchadrezzar, who had rebuilt seven distinct stages, each tinted to represent the ruling planet. The lowest was black, representing Saturn; the second, orange, for Jupiter; the third, red, for Mars; the fourth, golden, for the sun; the fifth, white, for Venus; the sixth, dark blue, for Mercury; the seventh, silver-tinted, for the moon. The colours of the stages of the tower at Khorsabad, beginning with the lowest, were: white, black, blue, yellow, silver and gold. They saw in the heavens seven bodies moving in a circle around the earth and undertook to represent that phenomenon in that part of the temple specially related to the study of the skies.

Moreover, the inscription of Ur Nina of Lagash makes mention of a small "apsu–sea" in the temple of the goddess, Nina, lady of destinies.[1] A bilingual hymn says of the great bull, the offspring of Zu: "Between his ears is the mouth of the sea." The reference is to a great basin which stood in the court of the temple in Babylon. The same hymn refers also to the twelve gods of copper.[2] This large basin represented the great celestial reservoir which was supported by the zodiac and which was the source from which rains were poured on the earth.

The interest in the heavens also influenced the feasts and fasts, instituted by the temple authorities. In the earliest ages the time of the feasts was associated with seedtime, harvest and the pursuits such as tillers of the soil were engaged in. With the introduction of astral religion, however, the old nature festivals were combined with ideas connected with astrology.[3] In Sumerian times, the New Year's feast was to recall the wedding of Bau with Ningirsu, a union which brought forth the harvest.[4] In Babylon, the spring festival was in honour of Marduk and was celebrated as a wedding feast, of which it is said concerning Marduk: "He hasted to the bridal." On the fourth day of this feast, which was of eleven days' duration, the high priest went into the great court of the temple; turned his face to the north with the prayer: "Star of Iku Esagil, picture of heaven and earth."[5] On the fifth of Nisan, four hours before

[1]Col. II, line 1-4.

[2]*Encyclopaedia of Religion and Ethics, Art.* "Bull."

[3]Cumont. *Astrology and Religion*, p. 31. At Erech, the religious calendar fixed two New Year's festivals, one in Nisan as in Babylon, and one in Teshrit. Each was the survival of an old Sumerian spring and autumn calendar. Langdon. *Babylonian Epic of Creation*, p. 28.

[4]Meissner. *Babylonien und Assyrien*, II, p. 93.

[5]Gressman. *Altorientalische Texte*, p. 299. Iku was a constellation representing the celestial Babylon.

the end of the night, the priest uttered a prayer to Enlil, in which mention was made of the planets and several fixed stars. At this spring festival, the reading of the Creation Epic was an important ceremony for thereby Marduk, exalted by the priesthood of Babylon to a position of supremacy among the astral deities, was extolled.

With the midsummer came the feast of Tammuz, which, in earlier times, marked the beginning of the decay of vegetation. The reading of the "Descent of Ishtar" belonged to this feast as the Creation Epic to that of the spring.[1] In this myth the goddess Ishtar, the goddess of vegetation, is represented as paying a visit to the land of "No Return." She appears, however, as the daughter of Sin, showing an astral motif. The gods put on mourning robes and lament her disappearance. Shamash weeps and appeals to Sin. Ea has pity and creates a being whose name, "Asushu namir"—"His exit is brilliant"—suggests an astral nature. He is sent to the "Land of No Return" to secure the release of Ishtar. The decay of vegetation is not an isolated fact; it is linked with the declining power of the sun, the approach of winter.

Of special importance in Babylonian religion were the phases of the moon. Gudea speaks of the seventh day as one of rest.[2] No one was struck with the whip; the mother corrected not her child; the house-holder, the overseer, the labourer, the work of their hands ceased. In the graves of the city no corpse was buried. The "kaba" played no psalm; uttered no dirge; the wailing women let no dirge be heard. In the realm of Lagash, no man who had a lawsuit went to the Hall of Justice. An injunction concerning the seventh day states: "The seventh day is a holy day of Marduk and Zarpanitu, an acceptable day, an evil day. The shepherd shall not change his body clothing; he shall not be clad in white; he shall not offer a sacrifice; he shall not talk victoriously. The seer shall not make declaration with regard to a sacred place. A physician shall not touch a sick man. It is not suitable to make a wish.[3] The day of the full moon was a sabbath (shapattum) when special prayers were made to appease the pantheon, the apprehension of the populace being aroused lest the beginning of the moon's decline might signify the displeasure of the gods.[4] In the age of Khammurabi, the 1st, 7th, 15th and 28th days of the month are feast days.[5] The 4th, 8th, 16th appear as

[1]Meissner. *Babylonien und Assyrien*, II, p. 183.
Gressman. *Altorientalische Texte*, p. 65ff.

[2]Gudea. B., 3, 15.

[3]Rawlinson. II, 48, 48-54, a, b.

[4]"Shapattum" is expressed ideographically by "um nuḫ libbi"—"day of rest of heart" (of the gods), i.e., a day when the wrath of the gods is to be assuaged by offerings. A hemerology speaks of the fifteenth day as "shapatti" explained by "gamaru" —to be full. That the term was not used of the seventh day is shown in the fragment, Rawlinson. III, pl. 32, 16, where it is explained as the fifteenth day when the moon was full. See *Creation Story*, V, 15-18. Clay. *Origin of Babylonian Traditions*, p. 119.

[5]Meissner. *Babylonien und Assyrien*, II, p. 92.

special feast days.[1] On the 6th, 16th, 26th and 28th days, the king offered a special prayer of penitence, the last being "um bubbuli"—day of lamentation—because the moon disappeared from view, to remain hidden for a few days in the power of the dragon.[2] The 19th day was a day of anger (um ibbu), as it marked a week of weeks from the beginning of the preceding month.

The images used were also dictated in part by astral conceptions. Among the images to be venerated was the bull, a symbol of the power residing in the sun.[3] The bull was associated with Taurus or the star, "Gud ana"—star of heaven (Aldebaran)—which rose heliacally near the time of the spring equinox in the third millennium before Christ.[4] There is also a relation between the winged-bulls, placed in front of temples and palaces, and the storm-clouds. The cherub (kiribu) of the portal of the Babylonian Arallu is addressed as begotten by the storm bird, "Zu."[5] Moreover, a tablet of stone, found at Sippar, represents the worship of Shamash, who sits on a carven throne. In his right hand he holds a symbol of the straight course of the sun across the heavens. Above him is a four-pointed star with beams representing the moon. Above the symbols of these heavenly bodies is the inscription: "Sin, Shamash, and Ishtar who dwell in 'zuab' (ocean)." Before the shrine is an altar with a large solar-disc, connected by ropes with two small figures on top of the shrine (perhaps genii who guide the sun). This image was an attempt to represent to the worshipper the nature and activities of the sun.[6] And, again, a limestone monolith of Assurnaṣirpal II shows that monarch wearing round his neck a crescent, a star, a trident and a cross.

The temple ritual is also permeated with astral conceptions. The ritual of the Anu temple in Uruk prescribes a daily offering of ten oxen to Anu, Antu, the sun, the moon and the five planets.[7] Another ritual text from the same temple prescribes a sacrifice to the sun, the moon and each planet so soon as it becomes visible.[8] Hymns were prepared for the worshippers of the heavenly bodies, which embody the cosmic conceptions of the astrologers:

> "Shamash, when thou enterest the innermost heavens,
> The glittering bars of heaven shout to thee in greeting;
> The wings of the gates of heaven bless thee."[9]

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[1]Rawlinson. IV, 32, 16 a. Meissner. *Babylonien und Assyrien*, II, p. 93.
[2]Rawlinson. IV, 32, 25 a. Meissner. *Babylonien und Assyrien*, II, p. 93.
[3]Jastrow. *Religion of Babylonia and Assyria*, p. 75.
[4]Kugler. *Sternkunde und Sterndienst*, I, p. 16.
[5]Lenormant. *Les Origines de l'Histoire*, II, p. 296.
[6]Ball. *Light from the East*, 156 f.
[7]Gressman. *Altorientalische Texte*, p. 308.
[8]Gressman. *Altorientalische Texte*, p. 318.
[9]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 116.

Astrology interpreted an eclipse as an evil omen, a sign that the sun-god or the moon-god were being overpowered by demons and, accordingly, special prayers, called "raising of the hand" (nish kati), were prepared, to be recited while the shadow crossed over the sun or the moon.[1] All prayers, however, were dependent for their efficacy on the day when they were uttered. A propitious day (umu mitgari) signified a day on which prayers were heard.[2]

Closely associated with astrology is the sacredness attached to numbers. The priests, who observed the omens, were dividers of space and time, hence the belief that all numbers have a sacred significance.[3] "Five" and "seven" are specially sacred, however, the former representing the number of the planets, the latter the number of interpreters of the divine will and the length of a phase of the moon. By adding these and by multiplying, the numbers "twelve" and "sixty," the important bases of the sexagesimal system of numeration are obtained. "Two" expresses the light and the dark part of the nycthemeris, also, the two aspects of the moon as waxing and waning, for which reason it was sometimes called "twin." "Three" expresses the division of the heavens into zones. "Four" expresses the number of the moon's phases, the number of directions, as also the divisions of the world, made for astrological purposes. "Three and a half" is sacred as it is the length of the winter season in months. "Seven" and "nine" are symbols of completeness; seven—extensive totality, nine—extensive and intensive totality.[4] "Twelve" is sacred because twelve lunations equal one synodical revolution of the sun.[5] Each god was associated with a number: Anu—60; Bel—50; Ea—40; Sin—30; Shamash—20; Ishtar—15; Adad —6.[6]

There is evidence that sixty, raised to the fourth power, was regarded as of special sanctity. Berossus, following an older system, seeks to make history harmonize with it by predicating:

466 saroi (3600) 4 neroi (600)—1,680,000 years of creation time.
120 " — 432,000 " " antediluvian kings (10 in number.)
10 " — 36,000 years of postdiluvian kings. (From the Flood to Alexander the Great.)
3 " 2 " — 12,000 years of end of days.

making a total of 2,160,000 years for the duration of the world, which is

[1]King. *Babylonian Magic and Sorcery,* p. XII.
[2]Eshmunazar. V, 27.
[3]Jeremias. *The Old Testament in the Light of the Ancient East,* II, p. 56.
[4]Kugler. *Sternkunde und Sterndienst in Babel,* II, p. 194f.
[5]Wundt. *Völkerpsychologie* (1911-20), VI, 339.
[6]Meissner. *Babylonien und Assyrien,* II, 22.

thus a ner of saroi 600 x 3600 = 2,160,000 years.[1] This period in the sexagesimal system is equal to 6 x 360,000 years in the decimal system, which is equal to 9 x 240,000 years. Of these 9 x 240,000 years, the creation lasts 7 x 240,000 years (7 days), i.e., 466 saroi 4 neroi = 1,680,000 years. The 2,160,000 is a sixth of the important Babylonian number, 12,960,000, which is 60 x 60 x 60 x 60.[2] As the spring point passes through the water-region (Capricorn) and the fire-region (Cancer), this is the origin of the teaching of Berossus that the world will be destroyed by fire when the planets come together in Cancer and, by flood, when they do likewise in Capricorn.[3] Three ages are sometimes distinguished as the silver, gold and copper.

Religion seeks an explanation of the origin of customs and conditions; therefore, a close relationship exists between religion, on the one hand, and myths and legends, on the other. This fact was especially true in the case of Babylonia, for magic played an important part therein and myths were the handmaids of magic. It was presumed that control over a force might be obtained by reciting the history of its origin. An ancient charm for toothache assumes that its cause is a worm and that worm can be subdued by reciting the history of its life from its creation in the heavens to its present position.[4] Therefore, the myth and the legend were of great importance in religious life.

In the case of astral religion, it cannot be ascertained whether the myth or the astrological system was first in time and so it is impossible to be certain as to the direction in which the influence first acted as between astrology and myths and legends. It is certain, however, that they grew together from the time that written history first begins.

The records, which belong earlier than the first dynasty, present astral myths which seek to throw light on the astrological view of the heavens. A bilingual text relates how Ishtar was exalted from her former position as an earth-dwelling goddess to be the exalted queen of the planet, Venus. The narrative begins with a prayer to Anu that Ishtar may be exalted to a position as the consort of Anu and may be permitted to hold sway over heaven and earth. Anu grants the request and assigns to Ishtar Ilabrat,

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[1]Schnabel. *Studien zur Babylonisch—Assyrischen Chronologie*, p. 9.

[2]Schnabel. *Studien zur Babylonisch—Assyrischen Chronologie*, p. 10.

According to another reckoning, the Babylonians reckoned the world year at 12 x 12 = 144 saros = 518,400 years. Therefore, Berossus assigned 432,000 years to the kings before the flood. From the flood to the first dynasty was reckoned at 34,080 years, or 33,091 years, which would make a period of 36,000 years from the flood to the reign of Alexander the Great. After the death of Alexander, 43,200 years remain to the end of the world.

Meissner. *Babylonien und Assyrien*, II, p. 117.

Schrader. *Keilinschrifte und das Alte Testament*, p. 538.

[3]Seneca. *Quaestiones Naturales*, III, 29.

[4]King. *Legends of Babylon and Egypt*, p. 126f.

as servant. He commissions her to shine by day and also by night.[1] He adorns her with the brightness of the moon; places in her hand the royal sceptre, the powerful wand, the pitiless weapon; and decrees that all that belongs to Anu shall henceforth belong to Ishtar.[2]

The myth sets forth one step in the process by which deities, earth-born and resident in a local temple, came to be regarded as living a life in the skies and exercising control over the heavenly bodies. Ishtar, at first a goddess of vegetation, worshipped in several centres, so far as is known, and probably worshipped wherever there was a temple of the sun, becomes an astral goddess by the decree of Anu, an ancient deity, who was the personification of the vault of heaven.

Moreover, the astrological division of the heavens into regions, with a deity presiding over each, is explained by the story of the "Seven Evil Spirits."[3] This narrative declares that Enlil was unable to control the evil spirits, which are the south wind, the dragon, the storm and other forces of nature. Therefore, he summons other gods, Anu, Sin, Shamash and Ishtar, and shares the lordship of the whole heaven with them. These spirits are often associated with the Pleiades, which, in the age of Taurus, vanished in the light of the sun for forty days, at the time of the spring equinox.[4]

The myth of Nergal and Ereshkigal reveals how different systems of astrology were amalgamated in the course of time to meet changing religious conceptions or political conditions, and many such changes must have been necessary when political and military supremacy in Southern Babylonia was frequently shifting from one city-state to another, and when each city-state desired its chief deity to be given supremacy in the pantheon of the conquered cities. The myth begins with a feast of the gods, to which Ereshkigal, the goddess of the under-world, was invited, but declined to come. She sent, however, her messenger, Namtar, the demon of disease, to present her excuses. Namtar was received by all the gods except Nergal, the god of disease and death, who refused to rise in recognition when Namtar entered. Namtar reported this insult to his mistress, who became furious. Nergal made his way down to the nether world and demanded an interview with Ereshkigal, who conceded his desire, expecting to kill him. They met in deadly combat and Nergal had her in his power when she appealed to Nergal to be her consort. On that condition, she offered to promote him to the lordship of the under-world and to give him the tablet of wisdom. This is an attempt to explain the transformation by which Ereshkigal is replaced by Nergal,

[1] In the Orient, Venus is sometimes visible by day.

[2] Gressman. *Altorientalische Texte*, 252f.

Similarly, the ancient storm god, Zu, was brought into connection with the Pegasus group. Rawlinson. V, 46, a, b, 20.

[3] Rogers. *Cuneiform Parallels to the Old Testament*, p. 63f.

[4] Jeremias. *The Old Testament in the Light of the Ancient East*, I, pp. 104-114.

originally a sun-god, as ruler of the underworld. It echoes the strife and compromise by which the astral deities supplanted the older local or terrestrial deities.[1] Astrologically, it describes winter, when vegetation dies. The sunken year goodess is brought back by the husband, as in the reversed myth, the "Descent of Ishtar," the consort of Ishtar is brought back from the underworld.[2]

Of similar import is the story of Tammuz, who is described in Sumerian text as a king, a successful hunter, who reigned in Erech for a hundred years. Legend exalted him to the heavens, making him a god of vegetation.[3] He is identified with Ninurta, who represents the summer solstice point and is the god of the month Tammuz. As such, he may be the destroyer of Tammuz (Ninurta as the boar), which expresses the experience that, at the summer solstice, vegetation begins to fade.[4] In the genealogy of the gods, he belongs, sometimes to Ea (the ocean), from which the aeons arise, and sometimes to Shamash, but especially to Ishtar, whose child, brother and husband he is.[5] Moreover, he may represent the recurrent sinking into the underworld of the planets and rising again into new life and may, therefore, bear solar, lunar, or Venus character. He also includes phenomena of Marduk (the spring sun), the light half of the zodiac, and Nabu, the dark half of the zodiac (Ninurta and Nergal).[6]

A similar legend related to Lugal Banda, who reigned in Erech for twelve hundred years, and recovered the tablets of fate, stolen by the bird god, "Zu," from the palace of Enlil.[7] And also Enmeduranki, a mythical king of Sippar, the seventh of the ten antediluvian kings mentioned by Berossus, is called to the council of the gods and permitted to share their secrets, thereby becoming the father of astrology. "Into the hand of Enmeduranki, king of Sippar, beloved of Anu, Enlil and Ea, they placed the tablets of the gods, the written tablets of the secret of heaven and earth."[8] The legend of Sargon relates how a sister of Marduk loved and wooed Sargon.[9]

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[1]Gressman. *Altorientalische Texte*, p. 69f.
Jastrow. *Hebrew and Babylonian Traditions*, p. 204.
The Sumerian gods were ultimately associated with the stars; Ninurta, a god of vegetation and the firstborn of Enlil, with Centaurus; Zamama, or Zababa, a god of war, with Aquila; Ereshkigal, mistress of the underworld, with Hydra; Irra, a storm-god, with the Great Bear; Papsukal (nin-shu-bar—lord of swine) with Orion.
Meissner. *Babylonien und Assyrien*, II, p. 30-38.

[2]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 121.
Rawlinson. IV, 31.

[3]King. *Legends of Babylon and Egypt*, p. 29.

[4]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 127.

[5]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 26.

[6]Jeremias. *The Old Testament in the Light of the Ancient East*, I, p. 125f.

[7]King. *Legends of Babylon and Egypt*, p. 30.

[8]Zimmern. *Beiträge zur Kenntnis der Babylonischen Religion*, p. 116.

[9]Jeremias. *The Old Testament in the Light of the Ancient East*, II, p. 92.

The age of the first dynasty of Babylon was one of renaissance in religion and letters. In that city, Marduk was the chief god of the pantheon, a fact which made necessary the revising of conceptions, taken over from the past. The spring sun was entering the zodiacal sign, Aries, which was interpreted to mean that an old era was closing and a new era commencing. Khammurabi thought himself to be the monarch, who was initiating a new age and, in so doing, set an example followed scrupulously by Sargon, Sennacherib and Assurbanipal after him.[1] Therefore, at the command of the court, old records were revised and amplified to bring them into accord with the theology of Babylon.[2] The most important results of this command are the Babylonian Epic of Creation and the Gilgamesh Epic.

The former of these declares that the first deities in time were those of earth and generation succeeded generation. From Apsu and Tiamat sprang Mummu and from Mummu, Lakhmu and Lakhamu. Then appeared an astral deity, Kishar (king of earth), and Anshar (king of heaven), and from these, the gods Anu, Enlil, Ea, Marduk, Ishtar, who were being worshipped when written history begins, were born. Strife ensues between the older and the younger order of gods. Tiamat exalts Kingu; entrusts to him the tablets of fate; and prepares to do battle for her prestige.[3] Anu is first sent against Tiamat, but retreats in dismay. Marduk then offers himself for the combat on condition that his command, instead of that of Anshar, shall henceforth fix fates.[4] Marduk is extolled at a banquet of the gods.[5] He assumes a magic garment which he makes to appear or to disappear at his will. It is a talisman, ensuring success. The weapons with which he encounters Tiamat are the bow, the spear, the club, the lightning, the fire, the net and the four winds (seven kinds of winds are mentioned later). Marduk advances against Tiamat in a chariot, which is the storm; and challenges her to combat. Tiamat is overpowered by the wind; and her helpers are ensnared in Marduk's net. Having triumphed, he takes the tables of fate from Kingu; and places them on his own breast. Then he sunders Tiamat like a flat fish into two halves, the upper one of which he erects, making it the vault of heaven.[6] The fifth tablet goes on to enumerate the works and achievements of Marduk as creator of the present world order.[7] Then the gods proclaim him as a conqueror.

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[1]Meissner. *Babylonien und Assyrien*, II, p. 118.

[2]King. *Legends of Babylon and Egypt*, p. 115.

[3]*Creation Epic*, Tab. 1.

[4]*Creation Epic*, Tab. 2.

[5]*Creation Epic*, Tab. 3.

[6]*Creation Epic*, Tab. 4.

[7]In Sumerian legends of the flood, Anu, Enlil, Ea and Ninkharsagga together create mankind. According to another tradition, Ea of Erech created the world. King. *Legends of Babylon and Egypt*, p. 109f.

"Let his name be Nibiru who seizes the midst;
He upheld the paths for the stars of heaven:
Like a flock, all the gods do pasture together."[1]

Fifty names are then assigned to him to make him correspond with Enlil of Nippur, formerly supreme, whose number was fifty.[2]

In this epic, historical and astral motifs are found intertwined. Marduk, as head of the astral worship of Babylon, has supplanted the older gods and rules with the consent of the other deities, who are included in the pantheon. Moreover, the spring sun, overcoming the clouds of winter, is the astral motif.[3] Marduk presides at the council of the gods because he holds the tablets of fate, the holder of which has the right to rule destinies. In one text Marduk seizes the tablets of fate from the "Zu" bird, a variation which shows how the varying myths were worked over. To Marduk belongs also a magic cloak, which he makes to appear or to disappear at his will. This conception places Marduk in command of the starry universe, which disappears before the morning sun and reappears after the setting of the sun. To the Babylonians, this change in the aspect of the heavens every twelve hours was a sign of the majesty of this god and a memorial of the work of creation, for therein they saw the work of creation renewed each day.[4] The new moon is the bow of Marduk with which he overcame the dragon.

In the Gilgamesh Epic, the hero is a king of Uruk, who, having gained a victory over Khumbaba, is wooed by Ishtar, who, being rejected by him, mounts up to the heaven of Anu to seek vengeance from Anu on one who has declined her advances. Anu accedes to her request and creates a bull, which he sends to destroy Gilgamesh and his companion, Eabani. Gilgamesh and Eabani destroy the bull.[5] After the death of Eabani, Gilgamesh wanders in the desert, bewailing human fate. So far as he knows, only one of his ancestors, Ut-napishtim, has escaped death and lives beyond the western sea. Gilgamesh goes to Mount Mashu (Lebanon), which is guarded by scorpion men. They receive him kindly, but warn him of the dangers of advance. Advancing, he finds himself in a beautiful garden, possessed by a queen who dislikes his appearance and locks her

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[1] *Creation Epic*, Tab. VII, 109-111.

[2] *Creation Epic*, Tab. VII, 123.

[3] A myth, concerning Marduk's death and resurrection, originated at Babylon and typified the return of the spring sun from the darkness of winter.
Langdon. *Babylonian Epic of Creation*, p. 32.
A text from the Arsacid age (250 B.C.-230 A.D.) states that, at the winter solstice, the daughters of Ezida (priestesses of Nabu at Borsippa) remove to the house of day (temple of Marduk in Babylon) to lengthen the days, and, at the summer solstice, the daughters of Esagil remove to the house of night (temple of Nabu). The meaning is that the light half of the year belongs to Marduk, the dark half to Nabu. Rawlinson. V, 46, 38.

[4] Eisler. *Weltmantel*, I, p. 290.

[5] Langdon. *The Epic of Gilgamesh*, Tab. VI.

doors. He narrates his troubles and asks how to reach Ut-napishtim, but receives a disappointing answer. A sailor of Ut-napishtim may help him, however, he is told. The sailor consents and they reach Ut-napishtim, who tells the story of the flood, which came because the heart of the gods drove them to send it.[1] Being forewarned, Ut-napishtim took refuge in an ark. Adad thundered while Nabu and Sharru (Marduk) went before. The gods feared the deluge and climbed up to the heaven of Anu. The wind and deluge continued six days and six nights. On the seventh day, Ut-napishtim sent forth a dove, which returned because it could find no resting-place; then a swallow, which also returned; and then a raven, which did not return. Having come out of the ark, Ut-napishtim went to dwell at the mouth of the rivers. Gilgamesh returns to Uruk, his native city, and causes Engidu, his dead friend, to return to earth.

In this narrative, also, historical and astral motifs are interwoven. It reflects the belief of earlier times that there are three heavens; the lowest, the starry heaven of blue jasper, which we see and over which the stars move. The middle heaven is of "saggilmit" stone and is the throne of Marduk and of the Igigi. The uppermost is of "luludanitu" stone, and is the throne of Anu, to which an ascent may be made by the zodiac.[2] It is a refuge for the gods when frightened by Adad, and a court of final appeal when dissension arises among the deities.

The arrangement of the Creation Epic and the Gilgamesh Epic on seven and twelve tablets respectively is significant. The work of creation is a seven-fold one, seven being the symbol of completeness. The motif of the Gilgamesh Epic is the annual course of the sun, divided into twelve lunations, hence its writing on twelve tablets. The motif is more clearly seen in the arrangement by which the conquest of the bull of Anu was placed under Taurus; the slaying of the youth, Khumbaba, in the fifth month typifies the victory of light over darkness; the wooing of Ishtar falls under Virgo; the conflict with the scorpions under Scorpio; while the eleventh narrates the story of the deluge and the twelfth associates the apotheosis of Eabani with the Fish.[3]

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[1]In an older form of the Story, Enlil causes the flood.

[2]Meissner. *Babylonien und Assyrien*, II, p. 108.

[3]Gilgamesh (Gibil, the fire-god, is commander), the hero, is the son of a high priest of Kullab and his wife, Ninsun. He succeeds Dumuzi as king of Kish.
Langdon. *The Epic of Gilgamesh*, p. 208.
King. *Legends of Babylon and Egypt*, p. 35.

CHAPTER IV

Babylonian Astrology and the West Semites

Culture is transmitted by means of war, commerce and migration. Therefore, Babylonian culture might be expected to exercise an influence on the Westland quite early, for Sargon of Akkad (cir. 2600) claims to have campaigned on the Mediterranean coast. His achievements in this respect seem to have fired the imagination of the ambitious kings of Babylonia and Assyria in later days, so that Syria and Phoenicia often felt the impact of Euphratean arms and culture. Shalmaneser I (cir. 1300) conquered the Arameans and Musri of North Syria. Nebuchadrezzar I (1140-1123) left his name inscribed on the rocks at the famous Nahr-el-Kelb, near Beirut. Later came Tiglathpileser I (cir. 1100), Assurnaṣirpal (885-860), Tiglathpileser IV (745-727), Shalmaneser V (727-722), who warred against Benhadad II of Damascus, Sargon (722-705), Sennacherib (705-681), and Esarhaddon (681-668), the goal of whose march was Egypt. Later came Assurbanipal (668-626), on his way to Egypt, and, finally, Nebuchadrezzar II (605-562).

Visible evidence of the extent to which Babylonian conceptions were propagated by these campaigns is furnished by several reliable sources. The Amarna tablets, found at Tell-el-Amarna in 1887, testify to the use of the Babylonian language in political circles in the fifteenth century throughout Palestine and Syria. Three tablets were found in the library of Assurbanipal, and a fourth, corresponding to them, among the archives of Amenophis IV (1377-1361) in Tell-el-Amarna. The latter had the divisions of the words marked by small dots in red ink. It was probably used as a text-book to teach the Babylonian language in Egypt. Furthermore, these tablets mention Bit Ninirta (later Jerusalem), suggesting the existence of an early Babylonian cult in what was later Jerusalem.[1]

The names of the cities of the Canaanites and their neighbours point, also, in the direction of Babylonian influence. In Moab was Mount Nebo, Num. 32: 3. In Canaan was Timnath Heres (portion of the sun), Judges 2: 9, Ashteroth Karnaim (two-horned Ishtar), Gen. 14: 15, Beth Shemesh (house of the sun), Joshua 15: 10, En Shemesh (well of the sun), Joshua 15: 7, Ir Shemesh (city of the sun), Joshua 19: 41, Jerah (moon), Gen. 10: 26, Heres (sun), Judges 1: 35, Jericho (moon), Joshua 5: 13, Beeshterah (house of Ishtar), Joshua 21: 7. This evidence is corroborated by the star-lists found by Winckler at Boghaz Koi, the capital of the Hittite empire, until superseded by Carchemish. This suggests that the Babylonian interest in astrology had penetrated Asia Minor at an early date. Furthermore, a text reveals the fact that the gods of Babylonia were

[1] *Amarna Tablet*, 105. (Berlin.)

regarded as having special efficacy, so that a statue of Ishtar is to be sent to Egypt to act as a charm against disease.[1]

When Egypt and the Hittites were feeling the impact of Babylonia, and eagerly absorbing its culture, it may be inferred that Syria and Palestine, situated much nearer and invaded by its armies, felt the throb of its life to a greater extent. The cities of Syria often stamped on their coins signs of the zodiac, as a sign that they stand under their patronage. The Babylonian Bel was worshipped over the whole of North Syria. So alike were the two peoples that, to the Greeks, Surioi and Assurioi were synonyms.[2] The West Semites may have used Babylonian astrology as the basis of the alphabet, which they devised and gave to the world. The origin of the alphabet, which supplanted cuneiform and hieroglyphic scripts, has long been held a mystery. The order of its letters and their names have often provoked inquiry. For the origin of the alphabet, which came into use about 1000 B.C., or about a thousand years after the age of Khammurabi, Hommel, Seyfforth and Winckler looked to the skies. A cuneiform text in the British Museum gives a list of twenty-four moon-stations (pirku), constellations in which the moon is found for twenty-four hours during a lunation.[3] It is maintained that this system is the prototype of the moon-zodiac of India and China, which originally contained twenty-four stations, but later three of these were doubled, making twenty-seven, and, still later, a twenty-eighth was added. A similar doubling is noted among the Arabs. As the moon is visible for twenty-eight days during each lunation, that number of moon-stations might be expected.[4]

Among the early peoples this moon zodiac was regarded as a celestial man, the prototype of the human body. The Taittiriya Brahmana, one of the oldest sources of writing, constructs an astral man, whose head is alpha of Virgo, whose hand is Corvus, whose legs are alpha and beta of Libra.[5] Moreover, a constellation-figure appears in Egypt, mention being made of "the star of the inners," "the star of the eyes." Also the expression: "Thy two legs rise in heaven." The members of the body are sometimes thought of as stars, and, sometimes, as resident in a star, as was true of the astral deities. A text from the pyramid of Pepi mentions twenty-four members of the celestial man and that these are the constellations of the Egyptian moon-zodiac is clear from a parallel source of the Mahabharata.[6] The order of the moon-stations, corresponding to

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[1]Rogers. *Cuneiform Parallels to the Old Testament*, p. 264.

[2]Cumont. *Astrology and Religion among the Greeks and Romans*, p. 77.

[3]*Cuneiform Texts*, Vol. 33, Col. VI. Rawlinson. V, 46.

[4]Stucken. *Der Ursprung des Alphabets und die Mondstationen*, p. 2.
Hommel. *Aufsätze und Abhandlungen*, p. 425.
Weber. *Die Vedischen Nachrichten von den Naxatra*, p. 320f.

[5]Stucken. *Der Ursprung des Alphabets und die Mondstationen*, p. 1f.

[6]Maspero. *Les Inscriptions des Pyramides de Saqqarah*, p. 221f.

the parts of the body, is: abdomen, leg, eye, hair, finger, mouth, nail, nose, buttocks, hand, brow, teeth and lips, arms, belly, neck, feet, loins, ear, back, cheek, navel, temple, knee, head.[1] In the Chinese zodiac, the star-groups with which parts of the body are associated, stand together and are found between the twelfth and the twentieth stations, while no parts of the body are mentioned in that segment which lies between the twenty-first and the twenty-eighth station.

It is further observed that the order of the moon-stations in the Chinese and Indian zodiacs is the same as the names given by the Sumerians to the months of the year, so that the ancient year was regarded as a reflection in time of the moon-zodiac. The names of months are: Libit, which is a star group in Taurus.

Shu which is a star group in Leo.
Ne
Kin " " " " " Hydra.
Dul " " " " " Virgo.
Apin " " " " " Libra.
Kan
Ab " " " " " Scorpio.
Ash, which is the heart of Scorpio.
She, which is a star group in Arcitenens.
Bar
Gud " " " " " Capricorn.

Coming to the alphabet with these facts in mind, it is noticeable how the order of the letters and their designation corresponds to the names of the Arabic moon-zodiac.

The second Hebrew station is al Butain—inner part.
The second letter is Beth—house.
The third Hebrew station is al Turajja—flood.
The third letter is Gimel—flood.
The fourth Hebrew station is al Dabaran—whirling stick.
The fourth letter is Daleth—door.
The fifth Hebrew station is al Haḳa—compare Assy. ikku—door.
The fifth letter is He—lattice window.
The sixth Hebrew station is al Hana'—from hana'—to be bent.
The sixth letter is Waw—hook.
The seventh Hebrew station is al Dira—influence, power.
The seventh letter is Zayin—weapon.

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[1]Stucken. *Der Ursprung des Alphabets und die Mondstationen*, p. 15.
Note: Halevy and De Rouge believed the alphabet descended from the Egyptian hieroglyphics. Hommel, at first, and Delitzsch believed it was descended from the cuneiform writing.

The eighth Hebrew station is al Natra—compare naṣar—to watch.
The eighth letter is Ḫeth—enclosure.
The ninth Hebrew station is al Ṭarf—leather bottle.
The ninth letter is Teth—leather bottle.
The tenth Hebrew station is al Gabha—brow.
The tenth letter is Yodh—hand.
The eleventh Hebrew station is al Zubra—back.
The eleventh letter is Koph—palm of the hand.
The twelfth Hebrew station is al Ṣarfa—compare ṣarafa—guide a horse.
The twelfth letter is Lamedh—ox-goad.
The thirteenth Hebrew station is al 'Awwa—roaring.
The thirteenth letter is Mem—water.
The fourteenth Hebrew station is al Simak—fish.
The fourteenth letter is Nun—fish.
The fifteenth Hebrew station is al Gafr—roof.
The fifteenth letter is Samekh—pillar.
The sixteenth Hebrew station is al Zubana—tongue.
The sixteenth letter is 'Ayin—eye.
The seventeenth Hebrew station is al Iklil—cranical suture.
The seventeenth letter is Pe—mouth.
The eighteenth station is al Kolb—heart of Scorpio.
The eighteenth letter is Ṣadhe—fish hook.
The nineteenth station is al Shaula—point, peak.
The nineteenth letter is Qoph—head.
The twentieth station is al Na'a'im—brain.
The twentieth letter is Resh—head.
The twenty-first station is al Balda—space between the eyebrows.
The twenty first letter is Shin—tooth.
The twenty-second station is Sa'd al Ḍobih—the fortune of the slayer.

It recalls the twenty-second Chinese station, Niou—ox = aleph, the first letter of the Hebrew alphabet.

The first station is al Sharatan—the two signs.
The twenty-second letter is Tau—sign.[1]

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[1]Stucken. *Der Ursprung des Alphabets und die Mondstationen*, p. 17ff.

The list of moon-stations given in T'oung Pao (1909-22) by Léopold de Saussure "Les Origines de L'Astronomie Chinoise" arranges the Chinese moon-stations in a different order as follows: cornu, overbearing, bottom, house, heart, tail, dust-pan, peck, ox, woman, empty, peril, dwelling, next door, 15th zodiacal constellation, trail along, stomach, Pleiades, finish, Orion, spreading branches, well, spirit, willow, star, open out, wings, carriage.

The following striking similarities occur:

1. The names are identical in the case of the third, ninth and fourteenth.

2. The significance of the names is quite similar in the case of the second, fifth, sixth, seventh, eighth, twelfth, thirteenth, fifteenth, and twenty-second letters.

3. Between the tenth and the twenty-first letters, the names of the letters suggest the parts of the celestial man, represented in the ancient moon-zodiacs.

A comparison of these leads at least to a suspicion that there is a relationship between the astral conceptions of Babylonia and the first alphabet. This suspicion is strengthened by the writers of the middle ages, Agrippa von Nettesheim and Pico della Mirandola, who affirm that the letters of the alphabet represent constellations.

CHAPTER V

Astrology and the Old Testament

Babylonian astrology had been exercising an influence over the peoples of Mesopotamia for centuries and its teachings had been propagated in Egypt, the Hittite empire and in Syria before the earliest documents of the Old Testament were written. The myths and legends related to it may be supposed to have become known at least in those lands, which had been brought into relationship with Babylonian culture through the medium of war, or of commerce. Therefore, it is natural to seek, in the Old Testament, signs of relationship to the astrological speculations and studies of Babylonia. Turning to those sources, now generally accepted as the oldest strands of the Old Testament, the diction suggests an acquaintance with astral conceptions. For the assistance of Israel, his peculiar people, the god of Jeshurun rides on the heavens, Deut. 33: 26. Moreover, there is a sympathetic bond of union between Jahweh and the stars and Israel, Judges 5: 20.[1] Moreover, Moses wrests the tables of laws from Jahweh and holds a unique position as leader of the people, Deut. 33: 8.[2] These tables of stone are of heavenly origin and contain divine decrees, Exod. 32: 15. In the earliest preserved fragments of Israel's history, therefore, there are certain presuppositions of astral religion.

The Jahwistic historians of Israel, who, in the eighth century before Christ, compiled a history of the world from the creation to the age of the formation of the tribe of Abraham, and of that tribe to the age of the conquest of Palestine from the Canaanites, as well as the Elohistic historians, whose treatise began with the formation of the tribe of Abraham, reveal alike a willingness to explain astral phenomena as signals in the power of Jahweh for the revelation of himself. He is associated with a mountain, called Sinai or Horeb, where storms of unusual violence are of frequent occurrence. To that mountain Israel must resort for worship.[3] His will is revealed in wonders, which include natural phenomena such as premature darkness and storms, Exod. 3: 20.[4] By means of copious rain, he expresses indignation against human sin, Gen. 6: 5. He impresses his people and his enemies with his glory by means of thunder, fire and brim-

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[1]Smend. *Alttestamentliche Religionsgeschichte,* p. 14.

[2]See Numbers 11: 29.

[3]Guthe. *Geschichte des Volkes Israel,* p. 40 (ed. 3).

[4]Wonder (mopheth)—an occurrence regarded as something extraordinary.

Sign ('oth)—an ordinary or extraordinary occurrence, regarded as significant of a truth beyond itself, or revealing a divine purpose. Driver. Deuteronomy, p. 75.

stone, Exod. 19: 16, Gen. 19: 24. He uses astral powers to assist Joshua, making the sun stand still to prolong the day, Joshua 10: 12.[1]

But Jahweh dwells in the heavens as well as in Sinai and there he reigns as god of heaven, Gen. 11: 5, 7; 24: 7.[2] He has associated with him a heavenly council, a heavenly court and a book of remembrance, Gen. 3: 22, Exod. 32: 32. These prepare human history and preserve a memorial of the past. The future having been determined, the divine oracles are communicated to men to regulate their conduct, Exod. 32: 15f, Num. 11: 29. The promulgation of these oracles is attended by fiery phenomena called a "fire of Law," Deut. 33: 2. The name "Jahweh" appears to be related, even if distantly, to these astrological conceptions, being derived from a Semitic root which means "breathe," or "fall." Hence, Jahweh is the god whose activity becomes apparent in the movement of the wind and in the descent of the lightning-bolt.[3]

But Jahweh, as conceived by the earliest historians, is vocal in the stars as well as in the wind and the lightning. The number of the stars suggests to Abraham the number of his descendents, Gen. 15: 4. By means of celestial phenomena, Jahweh signals to Israel, bidding the people to go forward in a certain direction, or to bivouac, Exod. 14: 9. These signals are easily interpreted, requiring no savant, but understood by the common people.[4] There are also propitious and unpropitious days. On a certain day Jahweh ordains the departure of Israel from Egypt, Exod. 9: 5; also a day of feasting, Exod. 23: 15; also a day of cessation from work, Exod. 20: 9 f. The Sabbath appears as a day that is blessed, a day on which men should be cautious, Exod. 20: 11; Exod. 23: 13. It is, moreover, a memorial of the will of Jahweh as expressed in the creation of the world, Exod. 20: 11. The study of the skies is, therefore, one of three means of ascertaining the purposes of Jahweh in their larger aspect. Side by side with the vision, which comprehends a study of the heavens, is the dream and the special power of Moses, who meets with Jahweh face to face, Num. 12: 6-8. It is not stated that professional astrologers are to be found in Israel, but it is declared that there are professional soothsayers in Egypt, called "ḥarṭummim," which relates the art in Egypt with

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[1]Compare Shamash lu shaba—The sun may remain standing. Delitzsch. *Assyrische Lesestücke*, 94, 22.

Jeremias. *The Old Testament in the Light of the Ancient East*, II, fig. 159 shows the sun and the moon aiding Marduk in his combat with a lion.

[2]Heaven is "shamayim"—the uplifted (comp. Assy. shamu). In *The Babylonian Epic of Creation* it is the half of the dragon, raised up by Marduk. It is a transparent vault of blue sapphire, allowing the light of the sun, the moon and the stars to shine through. Schiaparelli. *Astronomy in the Old Testament*, p. 39, see Exodus 24: 10.

[3]Comp. Arab. hawa—cause to fall. Also Assy. au or aiv —from hawa—to breathe.

[4]Comp. the oracle of Esarhaddon: "I, Ishtar of Arbela, will cause smoke to ascend on your right hand and fire on your left." It is not clear whether they are to be regarded as signs. Jeremias. *Handbuch der Altorientalischen Geisteskultur*, p. 256.

that in Babylonia, where the priests based their predictions on the carefully prepared tablets which they possessed, Gen. 41: 8, 24.[1]

In this age the Hebrews are already interested in dividing space and time. The Elohist makes a threefold division of the universe, Exod. 20: 4. The divisions of time are archaic: seedtime and harvest, cold and heat, summer and winter, day and night, Gen. 8: 22.[2] The year is divided into months and the words used to designate the month reveal the fact that that division of time is suggested by the moon, Exod. 23: 16.[3] Four of the month-names suggest Canaanitish origin.[4] There is a week of seven days, which terminates with a Sabbath, Exod. 23: 12. Noon is called "two lights," being regarded as the time between increasing and diminishing light, Gen. 43: 16.

A sacred significance attaches to certain numbers. "Twelve" possesses special efficacy, as is shown in the attempt to postulate that number of tribes in the confederation of Israel.[5] The proper name, Beersheba (well of the seven), suggests the sacredness of the number "seven," Gen. 21: 14. As the moon is visible during 318 days of the lunar year, a lunar motif may be present in the narrative of Abraham's expedition where that number of followers is assigned to him, Gen. 14: 14.

The Jahwistic and Elohistic historians glorify their characters and explain current history by relating to them the cosmological beliefs of Babylonia. For example, the Jahwistic writers find in the flood an important factor in world history. The wrath of Jahweh having been kindled by the sins of men, which sins include inter-marriage with the sons of Elohim, a flood is decided upon by him, Gen. 6: 1-7. Noah finds favour, however, and is warned seven days before the event to build an ark, in which to preserve his family, himself, and beasts and birds by sevens, Gen. 7: 1-5. Here, a relationship with the Gilgamesh Epic is readily noted. The diversity of speech existent is explained by means of the temple tower of Babylon. That structure was erected for unworthy purposes; men desired to climb unlawfully into heaven, Gen. 11: 4. Its conspicuous nature is known to the writers; it was built that it might be seen.[6]

Attempts have been made to follow along this line until a large portion

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[1]Ḥarṭom—from ḥereṭ-stylus, with which the tablet was inscribed.

[2]The names applied to three of these correspond to the Babylonian: Ḥom—Bab., ḥammu; Zera'—Bab., Zaru; Ḥoreph—Bab., ḥarpu. Jirku. *Altorientalischer Kommentar*, p. 84.

[3]Yeraḥ—month and also moon. Ḥodesh—month and also new-moon.

[4]Abib. Ex. 23: 15; Ziv, 1 Ethanim, 101. 8: 2; Bul, I K. 6: 23. These month-names are agricultural. Schiaparelli. *Astronomy in the Old Testament*, p. 104.

[5]Guthe. *Geschichte des Volkes Israel*, 52-54. In Deut. 33, Simeon is omitted and Joseph is made two tribes. In the Priestly narrative, Num. 2, Joseph is made two tribes; Simeon is included, but Levi omitted.

[6]Ideographically ziqqurat—conspicuous house, which seems in mind in Gen. 11: 4. Skinner. *Genesis*, p. 226.

of the narratives in the Old Testament relating to the infancy of civilization and of the Hebrew race are attributed to an attempt to pour human history into moulds furnished by astrological studies in Babylonia. The Abraham narratives have been suspected of lunar and Ishtar motifs. He comes from Harran, one of the centres of Sin-worship in Babylonia, and may appear as the husband or as the brother of Sarai, Gen. 20: 2.

In the Jacob narratives, Jacob's dream is thought to represent the cosmic temple, the stairs up to which are typified by the stages of the planet cycles, Gen. 20: 10-22.[1] Joseph, tempted in Egypt, may re-echo the temptation of Gilgamesh by Ishtar, Gen. 39: 7. Joseph's dream of the sun, the moon and the eleven stars may be an attempt to associate the family of Jacob with the zodiac, in which case the twelfth star may be Joseph, or the constellation obscured by Joseph as the sun-god, Gen. 37.[2] Jacob, crossing his arms in blessing the sons of Joseph, may reflect the exchange of the Marduk and the Nabu points, summer and winter, in the annual cycle of the seasons, Gen. 48: 18. Jacob's blessing of his sons may be an attempt to attribute cosmic significance to the sons of Jacob, Gen. 49. Each of the twelve sons has been identified with a house of the zodiac: Reuben is Aquarius, Simeon and Levi are Gemini, Judah is Leo, Zebulum is Capricorn, Issachar is Cancer, Dan is Libra, Gad is Sagittarius, Asher is Pisces, Naphtali is Aries, Joseph is Taurus, Benjamin is Scorpio and Dinah is Virgo.[3] The funeral of Jacob may be a parallel of the funeral of Tammuz at the time of the winter-sun, Gen. 49: 29f. He is dead; but destined to return, Gen. 50: 5. The division of the sea may recall the sundering of Tiamat on the part of Marduk. The death of Moses on Mount Nebo may symbolize the dying of Marduk; the thirty days of mourning may recall the festival of Tammuz.

Furthermore, astrological motifs are found in the narrative concerning Balaam of Pethor, who comes from Aram, out of the mountains of the east, Num. 23: 7. He obtains oracles by observing omens or by casting lots, Num. 22: 7; 24: 1.[4] He receives his oracle by night and his prophecy is couched in astrological parlance, a star being the metaphor for an illustrious king, Num. 24: 17. He compares the rise of the deliverer to Regulus, a bright star in Leo, situated between its feet.[5] Israel is spoken of as a people, rising up like a great lion, where the thought may be of the constellation, Leo, appearing on the horizon, Num. 23: 24.

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[1]Jeremias. *The Old Testament in the Light of the Ancient East*, II, p. 54f.

[2]But see Skinner. *Genesis*, p. 445.

[3]Jeremias. *The Old Testament in the Light of the Ancient East*, II, p. 83.

[4]Enchantments—"nahash," from a root meaning to hiss, or whisper. In Piel, to practice divination.

"ʕesem" or "ʕasam"—to cut or divide (the heavens), to ascertain the future. Gray. *Commentary on Numbers*, p. 318.

[5]Jeremias. *The Old Testament in the Light of the Ancient East*, II, p. 148.

After making due allowance for the instances where the parallels are the result of chance, it still seems plausible to infer that the earliest historians of Israel knew of the myths and legends related to Babylonian astrology and felt free to use them in the service of their religion. To declare them satellites of the astrologers, however, concerned primarily to make their religion a mere echo of the Babylonian astral cults, solves minor problems only to create a major one. If they were so anxious to relate their national history to astral speculations, it is inexplicable that they were at the same time determined to dissociate their worship from divination and idolatry, two essential concomitants of astral religion as cultivated in Babylonia. While using the stars to illustrate the purposes of Jahweh and to suggest his glory, they forbid the making of graven images, or likenesses of the heavenly bodies, Exod. 20: 4. The prohibition to make images of anything in the "heavens above" shows that the earliest historians of Israel were set against any compromise with the astral worship, which was resorted to by the neighbouring nations.

Assyrian Period

The overshadowing of Israel by Assyria was a gradual process. At first, the Assyrian kings were able to make only spasmodic efforts to hold the world in thraldom. When peace favoured them at home, they marched beyond their frontiers; when political conditions were perturbed at home, they recalled their legions from abroad. As early as the reign of Shalmaneser II (860-825), Jehu of Israel was forced to pay tribute, and, from that time, Assyria was a constant dread, sometimes rampant, often dormant. With Tiglathpileser IV (745-727) begins an era of glorification for Assyria, of humiliation for Israel, extending to the reign of Assurbanipal (668-626).

The literary sources which illuminate this period are the writings of the contemporary prophets, Amos, Isaiah, Hosea and Micah, and the narratives of the books of Samuel. There are also the books of Kings, compiled during the exile from historical records, some of which were made during this period. These sources delineate the rise in Israel of prophecy, a force which was to have large significance in the later history of Israel and of the world. The priests of the earliest times were prophets also, 1 Sam. 23: 6-13.[1] The Holy of Holies in the temple of Solomon was an oracle (*debir*), 1 Kings 8: 6. Special prayers were in use for those seeking to know the future, David's prayer when in suspense being similar to Assyrian prayers addressed to Shamash by suppliants seeking an omen, 1 Sam. 23: 11.[2] Samuel was a seer (ro'eh) and a prophet (nabi'),

[1]Kohen (priest) may be cognate with Arabic "kahin-seer," hence the meaning of priest and prophet was at first identical.

[2]Knudzton. *Assyrische Gebete*, I, 1, No. 1, 2, 72ff.

The O.T. and the Assyrian examples can be traced to the same source, a fixed prayer-ritual. Jirku. *Altorientalischer Kommentar*, p. 148.

1 Sam. 9: 9, 11, 18, 19. The former term denotes the ability to see and to hear what is hidden from others, 1 Kings 18: 41, 2 Kings 6: 32. The latter term may be traced back to Khammurabi, who styles himself "nabiu" of the god, Anu. Moreover, a religious text from Assur states: "She is nabit"—"prophetess"—of the gods.[1] Furthermore, Nabu was the secretary of the celestial council and, therefore, god of omens. It seems possible, therefore, that prophecy, as conceived in Israel, at least in its beginning, was related to the Babylonian speculations as to the ways and means of divining the future.[2]

The compilers of the books of Kings incorporated narratives concerning Elijah who, during the reign of King Ahab (cir. 850), inaugurated a reform movement, which was destined to produce important results in Israel's religious life. He held new views concerning the supremacy of Jahweh.[3] Elijah is recognized by his hairy mantle, which possesses magic power, and which may be related in significance to the garment of Shamash, which the seer of Babylon wore to designate his office, 2 Kings 1: 8.[4] He claims to be in essential agreement with the true prophets of earlier days, whom the populace has slain because of its opposition to their programme. Consequently, Elijah works alone at first, 1 Kings 19: 10. Natural phenomena reveal to him the will of Jahweh, 1 Kings 19: 11f. But the full revelation comes by way of the still small voice, which may be an attempt to remove established conceptions of soothsaying from that of communion between men and deity. He foretells drought and rain, 1 Kings 17: 1; 18: 1. He fearlessly denounces the prophets of Baal and of the groves, 1 Kings 18: 19, 40. In his generation nabi' becomes the official term for the servants of Jahweh, although ḥozeh and ro'eh linger as synonyms. Elisha, the successor of Elijah, adopts his master's programme and imported cults become increasingly unpopular, 2 Kings 3: 13; 10: 19.

But the efforts of Elijah and Elisha bore their choicest fruit when the literary prophets, Isaiah, Hosea, Amos and Micah, felt divinely summoned to purify the worship of Jahweh. During the lifetime of Elijah, schools of prophets had arisen to perpetuate his influence, 2 Kings 2: 3, 5. These schools remain in the days of Amos, Amos 7: 14. This prophet insists, however, that truth comes through divinely appointed channels, not necessarily through the medium of prophetic schools,

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[1]Schrader. *Keilinschriftliche Bibliothek*, I, 109, vs. z, 24.

[2]Ro'eh—divining priest (Bab., baru). Ḥozeh—reader of signs of the heavens, etc. Nabi'—revealer by means of ecstatic conditions. Smith. *Book of the Twelve Prophets*, I, 17. Nabi'—Inspired interpreter of the will of Jahweh. See Arab., naba'a —announce; nabi'yyun—prophet, speaker. Ro'eh and ḥozeh—the method of communication whether by dream or by vision. Kirkpatrick. *Samuel*, 100.

[3]Guthe. *Geschichte des Volkes Israel*, p. 31.

[4]This mantle is prominent in later days also, Zech. 13: 4. Bewer. *The Literature of the Old Testament*, p. 49.

Amos 7: 15. Nevertheless, in the thought of Amos, the true prophet holds an exalted position, being a participator in the secrets of Jahweh, Amos 3: 7. These earlier prophets inveigh against the observance of New Moons and Sabbaths, which have become closely conjoined in the religious rites, Isa. 1: 13, Hos. 2: 11, Amos. 5: 21, 2 Kings 4: 23. The appearance of the New Moon is celebrated by rest, Amos 8: 15; instruction or the seeking of omens, 2 Kings 4: 23; special sacrifices and the blowing of trumpets, 1 Sam. 20: 5.[1]

These prophets protest, in the name of Jahweh, against star-worship with which divination and magic are closely associated, Amos 5: 8, 26; 2 Kings 7: 16f.[2] Jahweh shall frustrate the astrologers by darkening the heavens, Mic. 3: 6. The diviners are attacked because of their mercenary motives and their mendacity, Mic. 3: 5, 11; 1 Kings 14: 1. But it is not inferred that all soothsayers are idolaters; the practice has crept into the cult of Israel, some of the diviners leaning on Jahweh, Mic. 3: 11. The inference is that these false prophets are insincere, or inefficient, for the prophets, while assigning pre-eminence to his ethical attributes, do not scruple to assign to Jahweh prerogatives quite similar to those assigned by the astrologers to their fate-controlling gods. Jahweh builds stories in the heavens, Amos 9: 6. He dwells in the heavens, Mic. 1: 3f. He controls them, Isa. 8: 8; and permits the names of the righteous to remain on the register of the living, Isa. 4: 3. He can use the

[1]Being unable to predict the exact day of the first appearance of the moon, the feast is of two days' duration. I Sam. 20: 27.

[2]Kimah, Am. 5: 8—Assy., Kaimanu—constant—applied to Saturn—Muss —*Arnolt Dictionary.* The Hellenistic translator does not render it but in Job 9: 9, 38: 31, the LXX identifies it with the Pleiades. Vulgate translates Arcturus, but Hyades in Job 9: 9 and Pleiades Job 38: 31. Perhaps from Arab., Kum—bind—a cluster closely bound together, hence Pleiades. Agreement has not been reached as to its significance. In later times the Sabbath is dedicated to Saturn. That the Sabbath was made to fall on the seventh day of the week instead of on every seventh day in the course of the month may be due to Saturn worship.

Kesil—Identified with Hesper, Job 9: 9, with Orion, Job 38: 31. Used in plural in Isa. 13: 10, referring perhaps to the configurations of the stars. Schiaparelli. *Astronomy and the Old Testament,* 61. Sakkuth—rendered in Sept., skene—tent, and in Vulgate, tabernaculum. An Assyrian name for Adar perhaps meaning "god of decision" or "chief arbiter." Schrader. *Keilinschrifte,* p. 443.

Am. 5: 26 may be taken as:

(a) A charge of idolatry in the wilderness (and ye lifted up).

(b) A question, parallel to the preceding: Did ye carry about a tabernacle of your king?

(c) A charge of idolatry during the entire period from the Exodus to Amos.

(d) An accusation against Amos' contemporaries (and ye lift up).

(e) A prediction (and ye shall lift up) referring to the coming exile.

(f) A command (Take up your idols—and go into captivity).

In any case Amos is convinced that a compromise with astral worship or its attendant practices is apostasy to Jahweh and conducive to the overthrow of the nation. The rising power of Assyria would commend their methods and their worship to weaker peoples, so that it seems reasonable to suppose that images used in astral worship were being introduced into Israel in Amos' day and, with them, the related Babylonian magic and astrology.

heavens to show signs, Isa. 7: 11.[1] He dwells in a celestial temple, from which he comes easily and majestically down to the earth and to the Jerusalem temple, Isa. 6: 1, Amos 1: 2; 9: 1, Mic. 1: 3f.[2] The celestial temple is explained on ethical grounds, Hos. 5: 15. It is the sins of men that cause Jahweh to dwell in the heavens. The "Day of the Lord" is approaching, which will be heralded by startling celestial phenomena; and will be propitious for Israel, Isa. 2: 12; unpropitious, Amos 5: 18f. The absence of omens is a harbinger of evil, Amos 8: 12, Isa. 8: 21f, as is also the darkening of the sun or the moon in eclipse, Amos 8: 9. Believing in the control of Jahweh over the physical universe, the prophets saw in any unusual phenomena a special manifestation. An eclipse which is known to have occurred on June 15, 763 B.C., with centre in Asia Minor 38°–39°, may be the basis of Amos 8: 9.

With the power of Assyria in the ascendant, the influence of Euphratean ideas was dominant and the prophet of Israel was not clearly distinguished from the astrologer. Amos is called ḥozeh, Amos 7: 12; ḥozeh and ʿosem (astrologer) are associated, Mic. 3: 7; ḥozeh and ro'eh are associated, Isa. 30: 10.[3] Star worship increased in popularity, Isa. 2: 6. Jahweh is worshipped in Bethel, Dan and Gilgal by means of an image of a bull, Hos. 4: 15; 9: 15, 1 Kings 12: 28. King Ahaz had an altar made after the Assyrian model and set it up in the temple, 2 Kings 16: 10ff.

The same monarch introduced a device with which to mark the sun's progress which the Targums, the Vulgate and Symmachus translate sun-dial.[4] The fall of the Northern Kingdom is attributed to the prevalence of idolatry there, 2 Kings 17: 16f, 30f. That kingdom having fallen, Judah was exposed to a flood of foreign influences, for Assyrian armies were enthusiastic to propagate the culture which Assyria had inherited from Babylonia.[5] These influences were overpowering in the reign of Manasseh (693-638). That king, impelled by Assyria, revitalized a cult which, in earlier days, had only smouldered, not having enjoyed

[1]Isa. 7: 11 appears as a local marvel, II Chron. 32: 31, visible in Jerusalem, but not so in Babylon.

[2]Mic. 1: 4 refers to earthquakes or volcanic eruptions. See Isa. 24: 19.

[3]It is assumed that the temptation to divine by the heavens comes from the East. ʿosem (divider) is made explicit in Isa. 47—"dividers of the heavens."

[4]Maʿalah denotes the step on a staircase so that the reference may not be to a scientific division of the day. If it should be so, this is the only attempt in the Old Testament to do so for shaʿah—translated, "hour"—denotes a point rather than a measure of time. Schiaparelli. *Astronomy in the Old Testament*, pp. 98-100.

[5]Colonists from Babylonia settled north of Judah, bringing star-worship with them, as the names of their cities imply, 2 K. 17: 30. 2 K. 17: 20—"Succoth" may mean booths or be corrupt for "Banitu," a term used of Ishtar, or may be corrupt for "Sakkut" (Am. 5: 26) in which case "benoth" would be dropped. Barnes. *Kings*, p. 92. (1911.)

official recognition.[1] He sought to combine astral worship and its attendant evils with the cult of Jahweh, 2 Kings 21: 4f; 2 Chron. 33: 3f. He maintained steeds to draw the sun-chariot in procession, 2 Kings 23: 11. The fact that this worship was practised on the housetops shows that the adoration was of the heavenly bodies as well as of their images, Jer. 19: 13, Zeph. 1: 5. During this long reign, the ideals of the prophets were obscured by the culture of Assyria, sustained by Assyrian armies and envoys. The temple of Jahweh in Jerusalem was virtually a satellite of the temples of Mesopotamia. To Manasseh it seemed reasonable to infer that the rise of Assyria and its hegemony over Israel was a sign that Jahweh was sharing his glory with the Babylonian pantheon.

While the religious aspects of the Babylonian world-view were influencing Israel, its cosmological and calendrical aspects were not dormant. The writers of the books of Kings affirm that Solomon placed in his temple, as a part of its furniture, a brazen sea, resting on twelve oxen, 1 Kings 7: 23f. This is a reflection of the astrological speculations of Babylonia. Moreover, the year is now divided into twelve months, designated by numbers, the first, the second, etc., 1 Sam. 11: 11. Sunset is the boundary between the days.[2] The night is divided into watches, mention being made of a middle watch, 1 Sam. 11: 11. This more minute measurement of time than in the preceding age was made necessary by the change in the life of the nation; a people, formerly pastoral and isolated, was becoming agricultural and commercial, a change which made standardization imperative.

Pre-exilic Period

In the person of King Josiah, the prophetic ideals found a worthy champion. This monarch set himself to reform the national worship in accordance with the plan of Deuteronomy, which embodies the programme of the earlier prophets with regard to the worship of Jahweh.

The reformers of this age insist that Israel is a people, holding a unique position as the chosen of Jahweh; and must refrain from the idolatrous practices of other peoples, Deut. 18: 14, Jer. 10: 2.[3] If Israel will be loyal to one god, Jahweh, he will raise up among them a prophet who will see truth in its fulness, Deut. 18: 13ff. Israel, therefore, must refrain from star-worship, Deut. 4: 9; images, Deut. 5: 8; high places, Deut. 12: 2-7. Death by stoning is to be inflicted on star-worshippers, Deut. 17: 2-5,

[1]Zephaniah in *Int. Crit. Comm.*, p. 188.

[2]H. P. Smith. *Samuel*, p. 79.

[3]The God of Israel assigns to each nation its objects of worship and the veneration of stars by nations other than Israel is a part of His ordering of the universe, Deut. 4: 19. Driver. *Deuteronomy*, pp. 70, 71.

Zeph. 1: 5; and on any prophet who may entice the people, Deut. 13: 1-3; 18: 10-12.[1]

This reform was in direct opposition to the popular trend, which was toward foreign customs, 2 Kings 22: 12ff, Jer. 8: 2; 19: 13. Ishtar, Queen of Heaven, was being worshipped, Jer. 7: 18; 44: 7-19; also the planets, 2 Kings 23: 5. Divination was being resorted to by false prophets in the name of Jahweh, Jer. 23: 22ff; 14: 14. The false prophets were specially seductive, for they foretold a bright future, quite the opposite of the forecasts of Jeremiah, Jer. 27: 9; 29: 8. In this religious strife, the priests took their place on the side of the false prophets, Jer. 20: 1-6.

Jahweh combines in himself the powers of the whole pantheon of Babylonia. He is the Lord of Heaven, Deut. 4: 39; 28: 23f. He dwells in heaven and on earth, Deut. 4: 36. But even the heaven of heavens (highest heaven) is unable to contain him, 1 Kings 8: 27. He is omnipotent, Deut. 5: 39. He requires no assistance nor counsel from any strange god, Deut. 32: 12.[2] His authority extends to the outmost parts of heaven—where the vault of heaven rests on the mountains that surround the earth, Deut. 30: 4. Heaven is His treasure-house where rain, wind and lightning are stored, Deut. 28: 12, Jer. 10: 13. It is inaccessible, so that things in heaven must be mediated to men; and it is implied that the mediators are the true prophets, who stand in the counsel of Jahweh, Deut. 30: 12, Jer. 23: 22. He speaks out of fire, Deut. 4: 33. He is related to time, having a covenant with day and night, Jer. 33: 20, 25.

In the scheme of these thinkers, the tribe of Levi occupies the place assigned to the seer in Babylonia. Jahweh ordains that that tribe should be pre-eminent among the tribes, because to it are entrusted the tables of stone, which contain the torah of Jahweh, Deut. 10: 1-5, 8f. The temple, at which the members of this tribe preside, is a place of oracles, 1 Kings 8: 23-33.[3]

A conscious attempt is made to separate religious ceremonies from natural phenomena as much as possible. The Sabbath is to be kept in remembrance of the deliverance from Egypt and for humanitarian

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[1]"Mazzaloth," 2 Kings 23: 5, appears next to sun and moon and is distinguished from all the host of heaven. It signifies a bright star or stars, perhaps the five planets. Schiaparelli. *Astronomy in the Old Testament*, p. 80.

From this age onward, the host of heaven signifies the stars, worshipped by the Hebrews, Jer. 8: 2, 2 Chron. 23: 3.

Me'onen—practises augury, from 'anan—cloud, hence cloud-gazer. Sometimes supposed to be from root meaning of 'anan—to appear or intervene, hence "dealing in natural phenomena." Curtis. *Chronicles*, p. 496.

It may be onomatopoetic—humming, crooning. Smith. *Deuteronomy*, p. 231.

For Zephaniah, the Day of the Lord is a time when Jahweh will punish those of Judah, who have compromised with heathen uses. Zeph. 1.

[2]Wisdom is the counsellor of Jahweh instead of astral deities, Pro. 8: 23f, which is related to Deuteronomy.

[3]Comp. are the prayer of Nebuchadrezzar at the dedication of the temple at Sippar: "O Shamash, answer me by judicious decree and dream."

reasons, Deut. 15: 5. The feast of the new moon is omitted, Deut. 16: 1-15. The sabbatical year is re-established for humanitarian reasons, Deut. 15: 1-18. The people are counselled, however, to "observe the month of ears," Deut. 16. This may be the sole reference to an intercalated month in the Old Testament, although there must have been one, for the Passover was closely joined with the beginning of the wheat-harvest and the Hebrew year, without the intercalated month, would be vague.

A day is a concrete reality, inseparably associated with terrestrial events, Jer. 20: 14. A certain day is associated with the birth of Jeremiah and his life has proven a burden to him. Therefore, he desires that it be declared inauspicious for all coming days, assuming that, a calamity having occurred once on a certain day of the year, the same may be presumed to do so always. This was one of the fundamental assumptions of the astrologers.

The legends which relate how important characters were exalted to the heavens are recalled in the narrative of the exaltation of Elijah. Having finished his prophetic work, he is "taken up into heaven" by means of a chariot of fire, 2 Kings 2: 1. His mantle, which he leaves with Elisha, is potent to divide the waters, 2 Kings 2: 14. It possesses magic power like the mantle of Marduk. His apotheosis is doubted by many who, fearing lest he may be abandoned in some mountain or valley, make search, but without result, 2 Kings 2: 16. Like Enmeduranki of Babylonia, Elijah, the father of prophecy, is exalted to heaven.[1]

Exilic Period

During the exile in Babylon, the Hebrews were brought to see at close range the attractiveness and the sterility of Babylonian cults. The common people felt its attractiveness and compromised; the religious leaders saw its folly and reacted. Ezekiel, the prophet of the Exile, chides his compatriots because they turn their backs toward the temple of Jerusalem to worship the sun and resort to divination in the name of

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[1]*Note*: In the literature of this period, astral motifs have been suspected but not convincingly proven in:

1. The shibboleth (ear of corn), Judges 12: 6. Ishtar is identified with the constellation, Virgo, who carries an ear of corn.
2. Ehud. Judges 3: 15. A pseudonym for Jupiter or Mercury. He carries in his hand a two-edged sword.
3. Jericho (Moon city). Joshua 6. Joshua's assault may typify the battle against the dark moon.
4. Gideon, Judges 7, and Goliath, Judges 11 (gallitu—sea) show a relation to the dragon—myth.
5. The number, "twelve," represents the power of winter, the difference between 366 and 354, the solar and the lunar year, Joshua 24: 12.
6. The rain of stones, Joshua 10: 11, recalls the dragon combat.
7. The crossing of the Jordan—the disruption of the dragon, Joshua 4: 5.

See Jeremias. *The Old Testament in the Light of the Ancient East*, II.

Jahweh, Ezek. 8: 16: 13: 6f. There was a desire to introduce into Judaism a priestly cast, which should be similar to the "baru" caste of Babylonia. Those who fled to Egypt attributed their former prosperity to their worship of Ishtar, Queen of Heaven, Jer. 44: 15f. To remove the temptation to compromise, the priestly code forbids participation in Gentile feasts on the part of Jews, Lev. 19: 26. The stars are regarded as of only temporary significance. They shall be destroyed, Isa. 34: 4. Their movements and appearances are controlled by Jahweh, Isa. 40: 26.

The god of Israel is eternally sufficient for all the needs of his people. He alone is Lord, Isa. 44: 24. His righteousness is eternal, Isa. 51: 6. On the other hand, celestial and terrestrial phenomena, like Nabu and Enlil of the Babylonian pantheon, who are reputed to cause them, are but transitory, Isa. 46: 1. The majesty of Jahweh is great as the heavens and the glory of His throne is comparable to the rainbow, Isa. 55: 9f, Ezek. 1: 20. He dwells in the heavens and also in the mountains of the north, with which for Ezekiel the Garden of Eden is identical, Ezek. 1: 4; 28: 13f. His chariot is a cherub, symbolized by weather-clouds, Ezek. 1: 4; by lightning, Ezek. 1: 13; by thunder, Ezek. 1: 24; by whirlwind, Ezek. 10: 13; by the rainbow, Ezek. 1: 28.

In the economy of these prophets and priests, therefore, the heavens possess a theological significance, but their meaning cannot be correctly read by heathen diviners, whom Jahweh refutes, Isa. 44: 25, Ezek. 12: 24. On the other hand, Jahweh fulfils the prophecies of His servants, Isa. 44: 26. Indeed, the heavens are hostile to Babylon because Jahweh controls them and Babylon does not worship him, Jer. 51: 48. He expresses his displeasure by means of clouds, thunder, and lightning, Ezek. 32: 7f. On the other hand, he expresses his good will by means of the rainbow, which proclaims that the sun triumphs over the clouds so that a flood shall not return.[1] The heavenly bodies are for signs, Gen. 1: 14.[2] The tabernacle of Moses and its furniture are models of celestial prototypes, Exod. 25: 9f.[3] Heaven is a storehouse, not only for rain, etc., but the blessings of the Messianic Age are already being kept there, Jer. 51: 14f, Ezek. 40: 1ff.[4]

The victory over Tiamat, attributed to Marduk in the Creation

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[1]Delitzsch. *Genesis*, p. 299f.

[2]'Othoth—signs—astrological in sense of Jer. 2: 10 and Isa. 7: 11, 2 Kings 20: 8-11. The rainbow is a sign of the covenant between Jahweh and his people, Gen. 9: 12-16, Ezek. 1: 28. Eclipses and falling stars portend evil, Isa. 13: 10.

[3]The conception of the Urim and Thummim reflects the Tablets of Destiny on the breast of Marduk and of Nebo, Exod. 28: 26f.

Urim—Assy., aa ru (Piel, uuru—to send forth an edict), from which come urtu and tertu—a divine decision.

Thummim—Assy., tamu (Piel, tummu), from which comes tamitu, oracle. Muss-Arnolt, *American Journal of Semitic Languages* (July, 1900), p. 218.

[4]Smend. *Alttestamentliche Religionsgeschichte*, p. 453. See Exod. 25: 40, Dan. 7: 13f.

Story, is ascribed to Jahweh, Isa. 51: 9. Jahweh presides at the heavenly council, Gen. 1: 26; the council chamber being "the mount of the congregation in the sides of the North," which is also the birthplace of storms, Isa. 14: 13f. The New Moon and the Sabbath are emphasized in the programme of reconstruction but their significance is religious; they are to be used as seasons when offerings shall be made to atone for the people's sin, Ezek. 45: 17-23; 46: 1ff.[1] The number, "seven," possesses a sacred significance in the ritual prescribed by the priests and in the history of Israel as conceived by them. Seven generations (toledoth) are assumed: the creation, Gen. 2: 4; Adam, Gen. 5: 1; Noah, Gen. 6: 9; Terah, Gen. 11: 27; Moses, Num. 3: 1; David, Ruth 4: 18; and Ezra. Unleavened bread is to be eaten seven days, Lev. 23: 6. Seven weeks then intervene before the Feast of Weeks, Lev. 23: 15. The Feast of Tabernacles is for seven days, ending with a solemn assembly on the eighth day, Lev. 23: 24. Also, a year of rest for the land is appointed every seventh year, Lev. 25: 2-7, 20-22. A seven branched candlestick is a part of the furniture of the temple, Exod. 25: 37.[2]

The age of Noah when the flood begins is six hundred years, the Babylonian "ner," Gen. 7: 6. There is a Year of Jubilee, also, associated with the number "seven." This recalls the apokatastatic year of the astrologers, but it is remodelled and humanized by the exilic writers. Its purpose is to restore periodically to their former status all citizens of Israel, who, for any reason whatsoever, have suffered loss or misfortune. Lev. 25: 2ff.[3]

The Hebrew calendar appears to the exilic writers as an institution, founded by Moses, for a religious purpose, Exod. 12: 2. The heavenly bodies are necessary for the determining of the seasons, Gen. 1: 14.[4] The heavens are regarded as a solid firmament, Gen. 1: 6, Isa. 40: 22.[5] In

[1]The offerings on the day of new moon exceed those of the Sabbath by a young bullock.

[2]Josephus. *Antiquities*, III, 7, 7.

[3]The 15th day of Nisan is a Sabbath, perhaps because conceived as a time when deity must be placated, Lev. 23: 15.

The Day of Atonement is one to be feared, a Sabbath; and may be related to the Babylonian view that the 15th day is not propitious, Lev. 23: 32. Jastrow. *Hebrew and Babylonian Traditions*, p. 172.

The Babylonian sexagesimal system is the basis of mathematical calculation in Ezek. 40: 2. Montgomery. *Daniel*, p. 196.

[4]Sun, moon, and stars, also determine the interchange of day and night; the light was before them. Dillman. *Genesis 1*, p. 72. "Seasons" signifies the regular calendrical significance of the stars. Marti. *Genesis*, p. 8. Mention is made of two evenings, Exod. 12: 6. The first was the twilight a half-hour in length; the second was the time (about an hour in length) from the appearance of the new moon to darkness. See also Shaḥarayim—two mornings, as proper name, 1 Chron. 8: 26.

[5]The firmament of Gen. 1: 6 divides the waters of earth from those of heaven. The use of the dual number shows an acquaintance with the double firmament. The double firmament implies the zodiac and the moon stations. Stucken. *Der Ursprung des Alphabets*, p. 22.

them are windows, Ezek. 1: 1, Gen. 7: 11. But the heaven of the stars is a curtain which Jahweh has stretched out (naṭa'), Isa. 42: 5, spanned (naphaḥ), Isa. 48: 13, and to which the stars are fastened as rosettes on a cloth, Isa. 34: 4.

The day is reckoned from morning to morning, Gen. 1: 5.[1] A year of 365 days is known, Gen. 5: 23.

Israel's religious leaders of the exile were, therefore, loyal to Israel's God, in spite of the constant temptation to which they must have been exposed.[2] They predicated of Jahweh all the worthy qualities, which they found attributed to the deities of Babylon by the astrologers: majesty, universality and the control of human destiny.

Finding themselves surrounded by an ancient culture, the religious leaders of the exilic period re-wrote their nation's history in which they attributed to Moses, the founder of their national life, their present religious and social customs. Moreover, they prepared a programme of worship and life for the future, which was influenced by Babylonian ideas, without surrendering to their belief in astral deities as controllers of fate. Furthermore, they incorporated Babylonian astral myths revised so as to accord with the supremacy of Jahweh. This revising process is shown in:

1. The Creation Story, Gen. 1: 1; 2: 4.
2. The ten generations of antediluvian patriarchs, Gen. 5.
3. The Flood Story, Gen. 6: 9-22; 7: 11; 13: 16, 18-21, 24.
4. The taunt of the king of Babylon, Isa. 14: 4.

1. Jahweh assumes the role of Marduk in the Babylonian myth but has not to wrestle with other deities for supremacy in the beginning. He creates the light; divides between light and darkness; creates a firmament of heaven; divides between the waters beneath and those above the firmament; creates the earth and the heavenly bodies, of which the sun was ordained to rule over the day and the moon over the night. Having prepared the universe, he creates man.

2. The period extending from the creation to the Flood is bridged by predicating ten patriarchs whose span of life accounts for 1,656 years, which intervene between the Creation and the Flood. The seventh of these, corresponding to Enmeduranki of the Babylonian list, who was exalted to a position in the heavenly council, is Enoch, of whom it is stated that "he walked with Jahweh and he was not for Jahweh took him," a reference to his exaltation, Gen. 5: 24.

3. Jahweh resolves to destroy the world of men by means of a flood. Human sin is the cause. Noah is approved, however, and warned to build an ark in which to protect his family and two members of each

[1]Delitzsch. *Genesis*, p. 83.

[2]King conjectures that Ezekiel had heard the Babylonian story of the flood recited and was impressed thereby. King. *Legends of Babylon and Egypt*, p. 135.

kind of beasts and of birds. The flood is for forty days and prevails for one hundred and fifty days. The Hebrews are interested in the moral significance of the flood; it is a punishment of sin; the calendrical significance given it by the Babylonians is quite ignored. To the Hebrews it is midrash; to the Babylonians, myth.[1]

4. The Etana myth and the "Exaltation of Ishtar" are recalled in the taunt of Lucifer, which is the metaphor for the king of Babylon, Isa. 14: 12. Lucifer, son of the morning, signifies Venus as morning star, which is the role the king desires to play. He desires a place in the assembly of the gods, Isa. 14: 13. He aspires to become an astral deity, Isa. 14: 14. His ambition for apotheosis, however, is completely frustrated.

The Psalms

The Psalms present a special problem because of the want of agreement as to the date of their authorship. In some eras the attempt has been made to prove them of late origin. At present the tendency is to assign to many of them an early date. That some provision was made for singing in the pre-exilic temple may be inferred from Neh. 7: 44, Ezra 2: 41. This register of those who returned from Babylon includes 148 (128) sons of Asaph. But, if the temple singing was organized in the days of David, as the Chronicler represents, the absence of any reference to it in the accounts of sacred ceremonies in Samuel and Kings is singular. The people sing, but no mention is made of professional guilds of singers as in Ezra, Nehemiah and Chronicles. In 1 Kings, 8 no mention is made of singing or music, but the Chronicles insert notices concerning both, 2 Chron. 5: 11-13; 7: 6. Temple singing probably developed gradually and it is reasonable to infer that the production of new psalms and tunes kept pace with it.

As the psalms which have survived have done so because of their excellence as vehicles for the praise of Jahweh, they cannot be expected to do otherwise than use the heavens as means of describing his glory. In this use, however, they manifest a view of the heavens, which reveals a correspondence with Babylonian thought without a surrender to its assumptions, which would detract from the supremacy of Jahweh.

Jahweh made the heavens where heathen deities dwell and controls them, 89: 11; 96: 5; 102: 25; 115: 3.[2] The vault of heaven is pliable in his hands. He bends the heavens when he wishes to come down in theophany, 18: 10.[3] Therefore, heaven is to be regarded with reverence

[1]The flood continues from the 17th day of the 2nd month of the 600th year of Noah's life to the 20th day of the 2nd month of the 601st year or 364 days, almost a solar year. Gen. 7: 11. A comparison of Gen. 7: 11 and 8: 4 shows that writer had in mind a month of 30 days.

[2]Briggs. *The Book of Psalms*, II, p. 304.

[3]Briggs. *The Book of Psalms*, I, p. 143.

although not worshipped, 73: 9; for it is not eternal as Jahweh, 102: 26. He controls all the forces of nature; the thunder and lightning, 77: 17f; 135: 7; the wind, 78: 26; the sun, the moon and the stars, 104: 19.[1] He knows the stars by name, 147: 4. The sun and the moon influence man for ill only if permitted to do so by their Maker, 121: 6.

Jahweh directs the course of human life, 31: 15. The designs of every part of the human body were in his possession before the body was fashioned, 139:16. They were preserved in his book, which may allude to the Tablets of Fate. The shining of his face is a sign that he is propitious, 80: 19. The New Moon is the time for a religious feast, 81: 3.

Fragments of a world-view, akin to the Babylonian, also appear. The firmament is the work of Jahweh, as it was of Marduk for the Babylonians, 19: 1. It is stretched out over the world and in it are windows, 78: 23.[2] The sun is provided with a tent by Jahweh and sunrise is its exit from it, Ps. 19: 5. The heavens are storehouses for wind, 135: 7; thunder, 81: 7; also for manna, angels' food, 78: 23ff.[3] The heavenly bodies are for the purpose of controlling the seasons and the watches, 104: 19; 136: 8 f. Each sign of the zodiac is a tent in which the sun rests for a month each year.[4] He waters the hills from his chambers, where the rain is stored, 104: 13. The heavens are a celestial garment of Jahweh, which will ultimately wear out, 102: 28.[5]

The celestial geography of Babylonia was, therefore, used by the Psalmists but with reserve and caution. Their own religious history furnished them with sufficient examples of the power of Jahweh and the consistency of his character. They had been redeemed from bondage in Egypt and from exile in Babylonia by Jahweh; and the culture of their recent oppressors was naturally distasteful to them. Moreover, their gaze was toward a future, in which Jahweh should send his Messiah, who should reveal all truth.

Post-Exilic Period

The portions of the Old Testament written after the Exile reveal a community, familiar with the trend of Babylonian thought and yet led by men, incensed against their former captors and determined that no compromise shall be made with the Gentiles in religious practice. They employ the assumptions and assertions of the astrologers for the extolling

[1]Thunder is the voice of Jahweh, 104: 7.

[2]Outgoings i.e., portals through which the stars proceeded and the winds blew. See 65: 8. "Windows" is used instead of "portals," 83: 11.

[3]Duhm. *Die Psalmen,* XXIV.

[4]"Chambers" shows that the heathen signs of the zodiac are being replaced by portals, as in Enoch 72: 3: "I saw 6 portals in which the sun rises and 6 in which it sets." Here the reference is to the progress of the sun through the signs of the zodiac. Charles. *Apocrypha and Pseudepigrapha of the Old Testament.*

[5]Briggs. *Book of Psalms,* II, 322.

of Jahweh. He is Lord, 1 Chron. 29: 11; 2 Chron. 2: 6; Ezra 1: 2; Neh. 1: 4; Job 9: 7-9; Eccles. 5: 2; Dan. 4: 25. He is all powerful both in heaven and on earth, 2 Chron. 20: 6. He can rend the heavens at his will, Isa. 64: 1. The host of heaven worship him, Neh. 9: 27. His dignity among the heavenly bodies is compared to that of a prince among the members of his court, Dan. 8: 11. Jahweh has subdued those powers to himself, Isa. 24: 21.[1] Other deities are mere idols, whereas Jahweh made the heavens, 1 Chron. 16: 26. To forsake Jahweh and worship other gods is folly, Isa. 65: 11f; 37: 2-5.[2] The lightning expresses his glory, 2 Chron. 7: 3. He dwells in heaven, Isa. 64: 1; 66: 1. The supramundane powers dwell there also, Isa. 24: 21. By the course of nature he expresses his displeasure with the conduct of men, 2 Chron. 7: 13, Hag. 1: 10f, Zech. 14: 17, Mal. 4: 1f. He acquaints his people with his pleasure, Neh. 9: 12f. The returned exiles are more precious than heaven or earth, Isa. 65: 17ff. Nevertheless, the divine ordinances must be heeded and the people are sent into exile as a punishment for the neglect of the Sabbatical Year, 2 Chron. 36: 21.

In this age the expression, "God of Heaven," comes into common use, Ezra 5: 11; 6: 9f; 7: 12; 7: 23. Heaven is a source of bread, Neh. 9: 15. Metaphors are taken from the heavens for the clarifying of religious conceptions. The coming Messiah is referred to as a "sun of righteousness with healing in his wings," Mal. 3: 20. Like the morning sun or the spring sun, he combats the powers of darkness. The stars of heaven by their numbers manifest the destiny of Israel, Neh. 9: 23, also the might of Antiochus Epiphanes, Dan. 8: 10. The height of the heavens makes them a symbol of inaccessibility, Job 11: 8. Their height and vastness are calculated to teach man his own littleness, Job 35: 5. The older conception of Jahweh as dwelling on earth is spiritualized to imply communion, 2 Chron. 6: 18, Isa. 57: 15.[3]

Assyria, Babylonia and Egypt are referred to as astral powers, Isa. 27: 1. Moreover, the superiority of Jahweh to them all is affirmed. The crooked serpent is the constellation, Draco, which winds about the North Pole; Serpens, a little to the north of the ecliptic, is the fugitive serpent; while Hydra, the water-snake dwelling in the south heaven, is the dragon that is in the sea.[4] The writer, therefore, knows of the threefold division of the celestial universe as made by the Babylonians: the

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[1]The sun and the moon belong the meromim (proud ones) whom Jahweh has subdued, Isa. 24: 23. They become the army of Jahweh, Ps. 148: 2.

[2]Gad and Meni have been identified with Jupiter and Venus, the greater and lesser fortunes of the astrologers. They have also been identified with the Hyades and Pleiades which stand on the head and on the shoulder of the constellation, Taurus, and marked the beginning of the year in early times; so that sacrifice to them fell near the passover to secure good luck for the coming year.

[3]Curtis. *Chronicles*, p. 343.

[4]Burney in *Journal of Theological Studies*, XI, p. 443.

North Heaven, the Zodiac, and the South Heaven. The subterranean course of the sun is also known, Eccles. 1: 5.

The proper names which appear also suggest a relationship with Babylonia. There is a Nebo, situated near Mount Scopus, Ezra 2: 29; 10: 43, called the "Other Nebo," Neh. 7: 33, to distinguish it from the Nebo situated in Moab. Mordecai and Ishtar are names borne by members of the Jewish community, Esther 2: 5, 7.[1] The names of the months now in use are those of Babylonia; Nisan, Neh. 2: 1, Esther 3: 7; Sivan, Esther 8: 9; Tammuz, Zech. 8: 19; Ab, Ezra 7: 9; Elul, Neh. 6: 15; Ethanim, 2 Chron. 5: 3; Kislev, Neh. 1: 1; Tebeth, Esther 2: 16; Shebat, Zech. 1: 7; Adar, Esther 3: 7. The older method of numbering the months remains, however, Esther 3: 7ff, Ezra 7: 9.

Astral phenomena appear in connection with the religious life of the restored community in Palestine. A cult of Hadadrimmon exists in the Valley of Megiddo, Comp. 2 Chron. 35: 25, Zech. 12: 11. The Sabbath and the New Moon appear as special times for offering sacrifices to Jahweh, 2 Chron. 8: 13; 31: 3, Ezra 3: 5, Isa. 58: 13. The ideal Sabbath was conceived of as a time of ritual as well as of spiritual refreshing. Students of the calendar hold a distinguished place, being sought for advice on perplexing questions, 1 Chron. 12: 32. Moreover, a ritual calendar makes its appearance in which the evening is the boundary separating day from day, Dan. 8: 14.

The Book of Job reveals a knowledge of Babylonian cosmology and cosmogony, but shows no signs of the author's having thought out a consistent theory. He is interested only in the more striking features of Babylonian speculations, and, in these, only in so far as they may illuminate human problems and glorify Jahweh. His field is theology, to which for him celestial geography is subservient. Jahweh hangs the earth upon nothing, Job 26: 7. Heaven is supported by pillars, as is also the earth, Job 9: 6; 38: 4-7; 26: 11. Jahweh spreads out the sky, which is both strong and solid, Job 37: 18. He guides the astral bodies in their courses and the movements have a bearing on the life of men, Job 38: 31ff. But, to know the meaning of the heavens is not possible to men.[2] Jahweh presides at the heavenly council, Job 2: 1f. He garnishes the heavens, Job 25: 13. He controls the agencies which cause storm and eclipse by swallowing the sun or the moon, Job 26: 13.[3] There are unpropitious days and these, like propitious days, recur according to his purpose, even as the stars re-appear in the heavens, Job 3: 8f. The heavens are personified and

[1]The Book of Esther has been suspected of being a story of the conflict between Elamite and Babylonian deities revised to harmonize with Jewish history and religion. Haman is Hummam, an Elamite god; Vashti is Mashti, an Elamite goddess; Esther is Ishtar, and Mordecai is Marduk. Gray. *Introduction to the Old Testament.*

[2]Job 38: 33 may refer to the seasons or to astrological forecasts. Strahan. *Book of Job*, p. 319.

[3]Davidson. *Book of Job*, p. 69. Rahab is the sea. Proud helpers—helpers of Rahab, Job. 9: 13; 26: 12.

the stars are animate, Job 20: 27; 38: 7. They shouted for joy when Jahweh created the world, even as the Babylonians represented the stars as rejoicing in the victory of Marduk over Tiamat. The stars and the sons of Elohim are closely related, Job 1: 6; 38: 6.[1] Job knows also of the mazzaroth, 38: 32.[2] "South" may imply a treasury where wind is kept, as the sirocco came from the south; or the writer may have desired to call attention to some conspicuous cluster then on the southern horizon, Job 37: 9.[3] Mention is made of the Great Bear, Orion and the Pleiades, Job 9: 9; 38: 31f, and the serpent, 26: 13.[4]

The Book of Daniel also refers frequently to soothsaying as practised in Babylon. Seven terms are used to designate diviners or magicians; but these do not correspond to any division indicated in the cuneiform literature and the various words used are not distinguished, 1: 20; 2: 2; 10: 27; 4: 7; 5: 7, 11. It is an art which is subject to limitations, whereas Jahweh reveals the deep things to those who do his will, 2: 19, 29. His deliverance of his own is as marvellous as are the signs and wonders which he works in heaven, 6: 27. Heaven and Jahweh are synonyms, so that revolt against Jahweh is synonymous with casting down the stars, 4: 26; 8: 10.[5] More-

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[1]Cheyne. *Job and Solomon*, p. 82. Peake. *Job*, p. 58.

Comp. Dan. 10: 13, 20, 21; 12: 1; Isa. 24: 21f.

Stucken finds in Job various references to the moon stations. 1 Pleiades, Orion, Mazzaroth, Arcturus, 38: 31, 32. Behmoth, 40: 15; the eyes, nose and tongue of leviathan being references to the moon-stations.

2 Job 38: 5, 6 refers to the second Hebrew moon-station: house.

3 Job 38: 8-11 refers to the third Hebrew moon-station: flood.

"Closed in by doors" is a reference to the fourth moon-station.

4 Job 38: 10 refers to the fifth old Hebrew moon-station: the dike. Stucken. *Der Ursprung des Alphabets*, pp. 20-22.

[2]Mazzaroth appears as a singular, "in its season" being used. It is a star or a constellation not always visible, most probably Venus. Sometimes amended to mazzaloth (planets) to accord with 2 Kings 23: 5. It may refer to the signs of the zodiac, or to the 5 planets. Schiaparelli. *Astronomy in the Old Testament*, p. 80. Mazzaroth (Assy.) (mazartu)—nodes of the moon.

[3]Schiaparelli. *Astronomy in the Old Testament*, p. 64. See Job 37: 17; Isa. 21: 1; Zech. 9: 14; Job 9: 9.

[4]Rahab—9: 13; 26: 12 cannot be proven to refer to the stars.

Mezarim—37: 9. The groups nearest the North Pole, perhaps the Great Bear or the two bears, from which direction the cold north winds come. Schiaparelli. *Astronomy in the Old Testament*, p. 69.

'Ash and 'Ayish—Great Bear, Job 9: 9; 38: 32. These are accompanied by names for other constellations. Aben Ezra declared that the Great Bear was meant. Ideler. *Untersuchungen über die Sternnamen*, p. 21. In the Septuagint, of Job 9: 9, it is uncertain which of the three names translates 'Ash of the Hebrew. In 38: 32, 'Ayish is translated Hesperon. In the Vulgate of 9: 9, 'Ash is Arcturus; 'Ayish of 38: 32 is Vesper. In the Peshitta, 'Ash and 'Ayish 'Iyutha, by which the Syrians meant Aldebaran and the children are the Hyades. Schiaparelli. *Astronomy in the Old Testament*, p. 57, p. 161.

[5]Montgomery. *Daniel*, p. 334.

over, the reward of the faithful shall be an apotheosis; they shall shine as stars, 12: 3.[1] By means of the heavens Jahweh regulates the seasons and the Jewish religious calendar, which no man can alter with impunity, Dan. 7: 25.[2] But history is not stereotyped, as the astrologers affirm. It moves toward a glorious consummation, through four ages characterized as golden, silver, brass and iron, Dan. 2: 32ff. Taken together, these constitute a celestial man, or may be represented as beasts, Dan. 7.[3] According to another scheme, history is divided into seventy weeks, Dan. 9: 24 f. Furthermore, the earth is divided into sections with a son of God, which in Job is identified with the stars, presiding over each, Dan. 10: 13, 20, 21; 12: 1.[4] Concluding human history, Jahweh will deliver his people from foreign aggression, rebuild Jerusalem and reveal the Messiah, 9: 23; 27.

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[1]The brightness of the firmament and the endurance of the stars symbolize the honour and the immortality, reserved for the blessed.

[2]Montgomery. *Daniel*, p. 311.

[3]In stating the proportions of the image the sexagesimal system is used (6 x 60 cubits). Montgomery. *Daniel*, p. 157.

[4]Peake. *Book of Job*, p. 58.

Wakeful ones or watchers, Dan. 4: 10, may relate to planetary deities. *Diodorus Siculus*, II, 30. Dan. 4: 14 appears as a solemn formula perhaps incorporated from the astrologers. At least it moves within the circle of Babylonian fatalism. Montgomery. *Daniel*, p. 236. Since the Book of Daniel belongs to the same age as the Book of Enoch, it may safely be affirmed that a flood of astrological influence was sweeping into Judaism at this time. For Enoch, the heavens are a tablet, foretelling all the deeds of all the men that shall be upon the earth to remotest generations, 81: 1. The four great days, the New Moon of the 1st, 4th, 7th, and 10th months, have an astronomical significance, being intercalary days, 75: 12, 82: 11. The lunar year is of 354 days; the solar year contains 12 months, each of 30 days, with four intercalary days in the equinoxes and solstices, 364 in all, 74: 10f. There is a knowledge of the cycle of Callippus in which the last month in 76 years had only 28 days, 79: 8. The light of the moon is known to be derived from the sun, 78: 10. Uriel is accorded the position of guide to the stars as they move in their heavenly courses, 72: 1f. According to the reckoning of Enoch, history is divided into ten weeks (ch. 91-105). Seven of these are past; the eighth is to be one of universal righteousness when the saints shall reign; the ninth will open with the judgment. The former heaven and earth will pass away and a new heaven will succeed, which shall be peopled by the righteous dead after their resurrection.

Chap. 80 is an interpolation, representing a school of thought in which the theological aspects of astrology eliminate the astronomical. Contrary to the remainder of the section 72-82, which is interested in the orderly movements of the astral bodies, this chapter affirms that there is no established order in natural phenomena; their laws and movements are all determined by human conduct.

Ḥarṭummin (scribes) is probably of Egyptian origin, denoting these schooled in the occult arts. Driver. *Daniel*, 11.

Gazrin (soothsayers) from the stem meaning "to cut," hence, "horoscopists," i.e., drawers of charts to show the position of the stars at the time of one's birth. Prince. *Commentary on Daniel*, 68.

Adargazrayya—Astrologers of Adar. Ḥakhamim—Wise men. Ashephim—Enchanters. Kasdim—Chaldeans. Mekashepim—Sorcerers.

In this period Judaism was suffering numerous disappointments. The expectations which the exilic writers expressed concerning the restored community were not fulfilled, with the result that the religious loyalty of the returned exiles often wavered and looked abroad for truth and solace.[1] Persian influences were present. From the time of Alexander the Great, the Greeks were an important factor in the life of Palestine. In a period of eclecticism, it was to be expected that Babylonian thought would be admitted and absorbed to some extent, even by those most devoted to the study of the law and the prophets.

[1]Jahweh has withdrawn into the heaven and is indifferent to the distress of the returned exiles, Isa. 63: 15.

CONCLUSION

The study of Babylonian astrology reveals an early attempt on the part of the priests of Babylonia to understand the universe and to discover its purpose. Being curious concerning the future, their fertile imagination beheld, in the world about them, codes of signs given by the gods to foretell the future. Much of their observation and contemplation was fruitless, but when they entered on a study of the heavens, systematic thought was necessary, and hypotheses concerning the significance of celestial phenomena, such as the moon's phases, halos, eclipses, conjunctions, and oppositions. Their belief in these phenomena, as signals from the council of the gods, caused them to observe constantly and this constant study gradually revealed to them the order which pervades the movements of the astral bodies. Their efforts to predict eclipses, though quite unsuccessful, reveal their convictions that the movements of the heavens are orderly and their desire to overcome the limitations of their knowledge. This phase of their study led gradually to the science of astronomy.

Furthermore, good fortune enabled them sometimes to divine the future accurately, so that the uninitiated came to have complete confidence in the theory that divine powers foretell the future to men. Therefore, religion and the foretelling of the future came to be closely associated in men's minds, hence, the large place assigned to prophets and prophecy in the religion of the ancient East.

A study, sponsored by kings and making use of structures so imposing as temple towers, might be expected to exercise an influence wherever Babylonian armies or traders penetrated, and perhaps beyond. A Babylonian invasion was likely to be accompanied by astrologers and to introduce into the invaded country the Babylonian cosmology. Palestine was no exception to this rule; the Old Testament shows signs of the influence of this world-view, although its writers do not appear to have studied the literary compilations of the astrologers. Their protests against the religious practices of their compatriots, however, lead to the suspicion that their fellow countrymen often viewed them with complacence and even with delight. The history of the relationship between the two countries would indicate four periods during which Babylonian influence was in the ascendant in Palestine. The first was in the age of the renaissance under Khammurabi, according to Babylonian sources, or, of the migration of Abraham, according to Hebrew sources. The second was in the age when Assyria was extending and consolidating her empire westward; a movement which culminated in the overthrow of the Northern Kingdom. The third was the period of exile, when Israel saw at first hand the glories and the evils of Babylonian civilization. The fourth was the post-exilic period, when unification was the ambition of statesmen and

kings, and eclecticism, a temptation to priests and prophets. Each of these inundations must have left its deposit of influence. In the Amarna period the diplomatic language of Palestine has been shown to be Babylonian; its religion polytheistic. In the reign of Manasseh the gods of the Babylonian pantheon were accorded a place alongside of Jahweh in the temple of Jerusalem, for to that monarch the trend of history indicated that Jahweh was sharing his glory with the deities of Babylonia and Assyria. During the exile the Hebrews adopted the Babylonian calendar and, to some extent, the Babylonian temple-ritual. The expansion of astrology under the Arsacidae and Seleucidae to include an interest in the fortunes of the common people, the casting of horoscopes for children at birth, must have made it more attractive and seductive to the Israelites, which force is revealed at work in the post-exilic books of the Old Testament and the Apocrypha, especially in Enoch.

But the religious leaders of Israel could not acquiesce in the polytheism and formalism of the astrologers. They insisted that "the heavens declare the glory of Jahweh," the deities of Babylon are inferior to him, or are mere idols. Jahweh cannot adequately be worshipped by mere ritual, however spectacular it may be—"Will Jahweh be pleased with thousands of rams or tens of thousands of oil?" Jahweh will adequately care for the future, if only men will adopt the attitude of humility in their religious and ecclesiastical life and will practice justice and mercy in their relationship one with another—"What doth Jahweh require of thee but to do justly, love mercy and to walk humbly with thy God?"

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